

# Lwarp

L<sup>A</sup>T<sub>E</sub>X HTML5

## The lwarp package

L<sup>A</sup>T<sub>E</sub>X to HTML

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### Abstract

The `lwarp` package converts L<sup>A</sup>T<sub>E</sub>X to HTML by using L<sup>A</sup>T<sub>E</sub>X to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L<sup>A</sup>T<sub>E</sub>X packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, XeL<sup>A</sup>T<sub>E</sub>X; by several CJK engines, classes, and packages; or by customized systems such as `pertex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M<sup>I</sup>K<sup>T</sup>E<sup>X</sup>) and PERL. Detailed installation instructions are included for each of the major operating systems and T<sub>E</sub>X distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L<sup>A</sup>T<sub>E</sub>X expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T<sub>E</sub>X is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L<sup>A</sup>T<sub>E</sub>X, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T<sub>E</sub>X. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, `side-by-side minipages`, and JAVASCRIPT-free navigation.

[For a quick-start tutorial, see section 5, Tutorial.](#)

[For a list of supported features, see table 2: Supported packages and features.](#)

[To update existing projects, see section 1: Updates.](#)

**Lwarp is still in development. Changes are likely.**

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- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
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**LaTeX Project:** Modernizing the L<sup>A</sup>T<sub>E</sub>X core.

**Libre Font Fund:** Fonts, tools (FontForge), and distribution (the Open Font Library).

**LuaTeX:** Combining the PDF T<sub>E</sub>X engine and the Lua language.

**MetaPost:** Postscript graphics.

**MacTeX:** T<sub>E</sub>X for Mac.

**PDF Accessibility:** Modern PDF standards.

**Other:** Additional projects may be specified.

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# 1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1334](#).

**v0.908:** Bug fix.

- Fixed obscure cross-reference issue, seen in some citations.

**v0.907:** Bug fix.

- Fixed SVG images for WINDOWS.

**v0.906:** Screen readers

- For each `tabular`, add a hidden HTML header cell to convince screen readers that the tables are data not layout. Also hide from the screen reader any final row used only to produce bottom borders.
- Adjusted SVG math for a margin change in *pdfcrop*.
- Added `\Ref`.
- Added docs regarding math in custom environments. See section [8.7](#).

**v0.905:** Bug fixes, internal improvements.

- Fixed conflict between `cleveref` and `splitidx`.
- Improved coexistence with `\AtEndDocument`.
- `acronym`: Updated to v1.47, added hyper links.

**v0.904a:** Fixed missing `lwarp-common-mathjax-siunitx` package.

**v0.904:** Added `siunitx` v3.

- Fixed HTML tags inside non-Latin text.
- `MATHJAX` now defaults to SVG rendering.
- Added `siunitx` v3. Updated `siunitx-v2`. See section [8.7.15](#) for limitations.
- Updated `caption`, `chemmacros`, `fbox`, `hyperref`, `multicol`, `wrapfig2`.

**v0.903:** Various updates and improvements.

*lwarpmk*

core

⚠ New images

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.
- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.
- Due to changes in how automatically-generated SVG image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.
- Improved back refs.
- Fixed `verbatim*`.
- Various internal updates for recent L<sup>A</sup>T<sub>E</sub>X release.

- packages**
- `cuted`: Updated to v2.0.
  - `flushend`: Updated to v4.0.
  - `mathalpha`: Updated for v1.14+.
  - `minted`: Updated to v2.6.
  - `cases`: Updated to v3.2.
  - `siunitx` with `MATHJAX`: Improved `\per`, `\numlist`, `\SIlist`, comma decimal points.
  - Added `showlabels`, `wrapfig2`.

**v0.902:** `beamerarticle`, footnotes, paragraph tags.

- core**
- Fixed footnotes inside descriptions, `minipages`, `amsthm`, `\nameref`.
  - Improved various paragraph tags.
- packages**
- Improved `parnotes`, `sympytex`.
  - Added `beamerarticle`.
  - Updated `luatexko`, `xetexko`, `tagpdf`.
- MATHJAX**
- Added missing standard international text symbols for `MATHJAX`.

**v0.901:** Tabular columns, float caption CSS, `MATHJAX` packages.

- core**
- Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.
  - Improved float caption CSS for newer browsers.
  - Improved emulation of `\newcolumn` type.
  - Added `\HTMLnewcolumn` type. See section 7.6,
  - `>\centering\arraybackslash`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section 8.10.1.
- MATHJAX**
- Now uses `MATHJAX` 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.
- packages**
- `dcolumn`: Now works inside a `lateximage`.
  - Added `mwe`.
  - Added `lltjp-tascmac`, which fixed `ascmac`.

**v0.900:** Package updates.

- core**
- Fix for detecting `\usepackage{lwarp}`.
- packages**
- `amsmath`: Fixed `alignat` with `MATHJAX`.
  - `changes`: Updated to v4.2.1.
  - `froufrou`: Updated to v1.4.0.
  - `lipsum`: Updated to v2.3.

**v0.899:** Minor updates.

- core**
- `lwarpmk`: Warns if `\usepackage{lwarp}` is not detected.
- packages**
- `graphics`: Added support for `keepaspectratio`.
  - `keyfloat`: Fix: `lw` with `h`.
  - `multicol`: Improved CSS.

**v0.898:** Minor updates.

- Fewer underfull `\hbox` warnings.
- `wrapfig`: Improved integration with `keyfloat`.

**v0.897:** `siunitx` rollback.

- docs**
  - Added a table of file extensions to use with `\includegraphics`. See table 9.
- core packages**
  - Added tests for additional incompatible packages.
  - `siunitx`: Supports rollback to v2. Does not yet support v3.
  - `fixme`: Improved to work if the user modifies layouts.
  - `float`: Improved integration with `newfloat`, `keyfloat`.
  - Added `centerlastline`, `decorule`, `fancypar`, `froufrou`, `pbalance`.
  - Verified works as-is with `fnpct`.

**v0.896:** Back references, accessibility.



- **Due to changes in cross referencing, execute `lwarpmk clean` before recompiling.**
- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.
- Added an error if using braces inside `\usepackage` options.
- Fixed footnotes in bracket display math with MATHJAX.
- MATHJAX theorems**
  - `LATEX` theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.
- accessibility**
  - Added HTML `<main>` element to each page.
  - Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.
- packages**
  - Improved citation backreferences for various packages.
  - `chemfig`: Updated to v1.6a.
  - `bigdelim`: Updated to v2.8.
  - `xetexko`: Updated to v3.1.
  - `hyperxmp`: Fix: Accept and discard additional keys.
  - `hyperref`: Fix: Added `\*autorefname` macros.
  - `biblatex`: Fix: Back references.
  - `tocloft`: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
  - `threeparttablex`: Fix: `\TPTL@tnotex`.
  - `amsthm`: Fix: Footnotes inside environment optional argument.
  - `listings`: Fixed labels. Accepts but ignores escapes w/o error.
  - `pdflscape`: Fix: Added landscape environment.
  - Added `ccicons`, `classicthesis`, `orcidlink`.
  - Added `enotez`.
  - Verified support for `doi`, `doipubmed`.

**v0.895:** Vector packages, greatly improved MATHJAX for siunitx.

- core
  - Fixed quotes in HTML tags while using old font packages with Xe<sub>L</sub>AT<sub>E</sub>X and Lua<sub>L</sub>AT<sub>E</sub>X.
- MATHJAX packages
  - Added `\ifblank` and `\ifstrequal` to MATHJAX emulation.
  - `multirow`: Allow `\par` per v2.7.
  - `acro`: Updated to v3.5.
  - `fancyhdr`: Updated to v4.0.
  - `changes`: Updated to v4.0.1.
  - `epsfig`, `rotating`: Now work inside `lateximage`.
  - `amscdx`: Verified to work with `svg math`. Warning added about use with MATHJAX.
  - Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
  - Improved MATHJAX emulation for `siunitx` `\ang`, `\num`, `\SI`.
  - Added `epsf`, `imprnattypo`, `isotope`, `lpic`, `luavlina`, `mdwmath`, `pinlabel`, `rlepsz`, `tikz-image-labels`, `xevlva`.
  - Verified to work as-is: `tensind`.

**v0.894:** MATHJAX additions and improvements.

- MATHJAX packages
  - Improved warning message for enabling `svg graphics` for select math expressions while using MATHJAX.
  - Accept and ignore a star for `\hspace`.
  - Ignores `\arabic`, `\number`, `\noalign`.
  - Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
  - `booktabs`: MATHJAX emulation now absorbs and discards `trim`.
  - `menukeys`: Updated to v1.6.1.

**v0.893:** Minor fixes, more packages.

- MATHJAX packages
  - Added MATHJAX emulation for `\mathnormal`.
  - Fixed `pstricks` `pspicture*`.
  - Fixed `tikz` font macros.
  - `braket`: Now uses the MATHJAX extension.
  - Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
  - Added MATHJAX emulation for `mathspec`.
  - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.

**v0.892:** `minted`, `fvextra`, MATHJAX `\left/\right`.

- MATHJAX packages
  - `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
  - `textpos`: Updated to v1.10.
  - `xcolor`: Fixed optional args for `\fcolorbox` and related.
  - Added `fvextra`, `minted`.

**v0.891:** MATHJAX additions and improvements.

- core**
  - Now displays inline `\verb` text as `\texttt`.
  - Fixed `alltt` and `verbatim` with L<sup>A</sup>T<sub>E</sub>X lists.
  - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX packages**
  - Added MATHJAX *textmacros* extension, allowing formatting inside `\text`.
  - `biblatex`, `hyperref`: Added back page references.
  - `fancyvrb`: Fixed `BVerbatim` with a label.
  - `listings`: Fixed MATHJAX with captions, improved HTML sanitation.
  - `babel-french`: Fixed `\texorpdfstring` conflict.
  - Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
  - Improved MATHJAX for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicefrac`, `shuffle`, `units`.
  - `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in `texdoc unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
  - Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`.

**v0.89:** Additional MATHJAX support.

- core**
  - Adapted to upcoming L<sup>A</sup>T<sub>E</sub>X kernel changes.
  - Allows load of `amsmath` before `lwarp`.
- lwarpmk**
- MATHJAX**
  - `MATHJAX`: Neutralized `\protect`, `\mathcode` and related, ligatures. Fixed nested environments.
- packages**
  - `caption`: Updated for v3.5, fix for label sep.
  - `thmtools`: Updated for v0.72. Fixed `swapnumber`, `margin`.
  - Improved MATHJAX for `centernot`, `mathtools`, `mismath`, `Slunits`, `siunitx`, `statmath`.
  - Added MATHJAX emulation for `accents`, `hepunits`, `hhtensor`, `mathalpha`, `mathdesign`, `mathpazo`, `mathptmx`, `mleftright`, `newpxmath`, `newtxmath`, `newtxsf`, `pxfonts`, `shuffle`, `txfonts`, `upgreek`, `ushort`.
  - Verified to work as-is: `authoraftertitle`.

**v0.88:** Indexing, boxing, theorems.

- core**
  - **Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.**
  - Fixed: `\ref*`, and also added MATHJAX emulation.
  - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
  - Fixed: Use `\chaptername` where appropriate.
  - Fixed: Inline links causing extraneous paragraphs.
- lwarpmk**
- indexing**
  - Added `lwarpmk -v` to print the version number.
  - Added the `IndexRef` option to control the display of index entries. See section 7.5.

- Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
- Added support for `gindex`, `xindex`.
- Verified to work as-is with `varindex`.
- `cleveref`, `varioref`: Fix for starred macros.
- `varioref`: Removed page-related text from HTML output.
- `xfakebold`: Updated to v0.08, using `pdfrender`.
- `caption`, `scrextend`: Fixed `\caption*`.
- Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

packages

**v0.87:** MATHJAX, bibliography packages.

core

MATHJAX  
 ⚠ Removed  
`\DeclareIfstar`  
 packages

- Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
- Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.7.
- `physics`: Now supports the MATHJAX v3 extension.
- `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside `math`.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrace`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

**v0.86:** MATHJAX major updates.

core

MATHJAX

- Fixed: Filename if named files with `*`, `parens`, `period` in section name.
- Fixed: Labels in `eqnarray`, `lateximage`.
- Updated to MATHJAX v3. New repository.
- Fixed forward references for MATHJAX.
- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.7.
- Added `\DeclareIfstar` to define starred `TEX` macros in MATHJAX. See section 8.7.7.
- Generates an error if `\MathJaxFilename` file does not exist.

packages

- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.



**v0.85:** fontspec

packages

⚠️ acro formats

- fontspec: Fixed core font change macros for world languages.
- acro: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

**v0.84:** Previous/next page links, numerous fixes.

docs

⚠️ home page footer changed

core

⚠️

lwarpmk

packages

- Added documentation of `BlockClass` and `\InlineClass` for `css <div>s` and `<span>s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in `tabbing`.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into L<sup>A</sup>T<sub>E</sub>X kernel.
- Fixed `\itshape`, etc. Adapted to L<sup>A</sup>T<sub>E</sub>X fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `<span>` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X<sub>Y</sub>T<sub>E</sub>X logo and `graphics` if actually used `\Xe`.
- `lwarpmk clean` also removes `comment_*.cut`.
- `scrextend`, `scartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated memoir.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssect-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

**v0.83:** memoir fixes.

packages

- `memoir`: Various fixes and updates.
- `physunits`: Updated to v1.0.4.

**v0.82:** MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX**
  - Improved footnotes with MATHJAX.
  - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages**
  - xpinyin: Added pinyin with modern HTML.
  - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
  - soul: Fixed `\<`.
  - chemfig: Updated to v1.5.
  - draftwatermark: Updated to v2.0.
  - ulem: Fixed: `\dashuline`.
  - amsmath: Fixed: `\intertext` with MATHJAX.
  - endnotes: Fixed: Marks in print mode.
  - tocvsec2, tableof: Verified to work as-is.
  - Added etoc (nullified).

**v0.81:** MATHJAX speedup and additional emulations.

- core**
  - Improved warning regarding SVG math sizing / baselines and `graphics / graphicx`. See section 8.7.
- MATHJAX**
  - Improved MATHJAX emulation processing speed.
  - Added MATHJAX emulation for accsupp, axessibility, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages**
  - axessibility: Updated to 2020/01/08 version.
  - gridset: Updated to v0.3.
  - Slunits: Fixed for math mode.
  - Added DotArrow, nolbreaks, luamplib, returntograd, statex2, tagpdf.
  - Verified to work as-is with icomma, mathpunctspace, textualcomma.

**v0.80:** MATHJAX, biblalex.

- MATHJAX**
  - Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.7, [Customizing MATHJAX](#).
  - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrul, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
  - Improved MATHJAX emulation for unicode-math.
- packages**
  - biblalex, url: Now create hyperlinks.
  - amsmath: Fix to center starred environments.
  - xcolor, graphics: Made more macros robust.
  - colortbl: Fix: Rule color in a `lateximage`.
  - chemmacros: Updated to v5.10.
  - Added fewerfloatpages, ghsystem, hline, mismath, nccmath.

**v0.79:** MATHJAX, nested tabular.

- MATHJAX**
  - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
  - Warn if using certain packages not supported by MATHJAX.
- core**
  - tabular: Now may be nested.
  - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
  - Uses new iftex.
- packages**
  - graphicx: Fix: Negative angles.
  - caption: Fix: \captionlistentry with longtable.
  - multirow: Fix: Centered vertical alignment.
  - siunitx: Fix: \square, \cubed.
  - booktabs: Fix: memoir with lateximage.
  - babel and polyglossia: Added troubleshooting warnings.
  - fontawesome, fontawesome5: Supports text color and size.
  - transparent: Fix: lateximages.
  - epigraph: Updated to v1.5e.
  - xurl: Updated to v0.08.
  - subcaption: Fixed with memoir.
  - floatrow: Fix: \linewidth. No longer require float, graphics.
  - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
  - Added widetable, witharrows, steinmetz.
  - Added awesomebox, catoptions.
  - Added svg, supports svg-extract.
  - Added parcolumns, pdfcolparcolumns,
  - Added parallel, pdfcolparallel.
  - Added pdfcol, pdfcolfoot, pdfcolmk.

**v0.78:** Fixes for support files, alt tags, hyperlinks, and the 2019/10 L<sup>A</sup>T<sub>E</sub>X release.

- docs**
  - Docs: Improved documentation regarding package options. See section 8.1.
  - Fix to overwrite existing support files using new filecontents environment.
- packages**
  - breqn: Previously broken by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, but now working again.
  - graphics: Fix for \includegraphics alt tags.
  - babel-french: Fix for hyperlinks.
  - media9, movie15, multimedia: Fix for the 2019/10 L<sup>A</sup>T<sub>E</sub>X update.
  - accessibility: Added.

**v0.77:** Updates to fix recently-broken packages.

- booktabs: Updated to v1.6180339.
- chemformula: Updated to v4.15.

**v0.76:** MATHJAX, updates for L<sup>A</sup>T<sub>E</sub>X 2019/10 release.

docs  
MATHJAX  
packages

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.
- MATHJAX: Updated to v2.7.6.
- xr: Updated to v5.05.
- xr-hyper: Updated to v6.1.
- Verified works as-is with xcite.
- acro: Updated to v2.10.

⚠ broken

- Currently broken in print mode by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, and waiting for fixes: breqrn, grffile, multimedia, movie15.

**v0.75:** keyfloat, wrapfig

packages

- \minipage: Fix for \linewidth.
- keyfloat: Improved color control.
- wrapfig: Fix for \linewidth.

**v0.74:** Docs, svg math, *lwarpmk*, HTML alt and title text, lyuatex

docs

- Added to the tutorial the section **What next?**. See section 5.19.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text  
changed names

Old	New
(hard coded as “image”)	\ImageAltText
\mathimagenam	\MathImageAltText
\packagediagramname	\PackageDiagramAltText

- Added \ImageAltText for the default HTML alt text for an image. See section 7.6.
- Added \ThisAltText, which may be used to assign a one-time HTML alt tag to the very next image generated by lwarp, such as a lateximage, picture, tikzpicture, an image generated by various chemistry or engineering packages, or an svg math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

svg math

- Adjusted \LateximageFontSize default from .75 to 1.
- Fix: Font control for svg math.

misc

- Fix: Ignores negative \hspace.
- Warning if SideTOCDepth < FileDepth.

*lwarpmk*

- *lwarpmk*: **lwarpmk clean** removes additional files.
- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.

packages

- lyuatex: Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with mathspec, unicode-math.

**v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.

packages

- Fix for `\include`.
- Warning for a `tabular` inside a `<span>`.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
- `koma-script`: Fix for starred captions in the toc.
- `caption`: Fix for starred captions.
- `datatool`: Added pie, bar, and plot charts.
- `threeparttable`: Added `measuredfigure`.
- `intopdf`: Updated to v0.2.1.
- `tocdata`: Updated to v2.03.
- `quotchap`: Updated to v1.2.
- `versonotes`: Updated to v0.4.
- `backnaur`: Now uses SVG images. Updated to v3.1.
- `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
- `fancyvrb`: Fix for label HTML tags.
- Added `stackengine`.
- Added `lyluatex`. (Music scores.)
- `musicography`: Updated to 2019/05/28. Added support for `lateximages`.

music

**v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.

⚠ images

- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using
 

```
Enter ⇒ lwarpmk cleanimages
```

 and
 

```
Enter ⇒ lwarpmk limages
```

packages

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

**v0.71:** Error handling, multimedia, tabular.

- tabular: Added support for ‘\*’ columns. Fix for paragraph tags.
- quotation: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- *lwarpmk*: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages
  - chemfig: Updated for v1.4.
  - endfloat: Updated for v2.7.
  - textpos: Updated for v1.9.1.
- multimedia
  - Added `media9`, `movie15`, `multimedia`.

**v0.70:** Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `lwarpmk` `!images` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a `<span>`.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
  - textcomp, xunicode: Fix for `\textinterrobang`.
  - mhchem: Works with MATHJAX. See section 410.
  - changes: Updated to v3.1.2.
  - Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogox`.

**v0.69:** Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for  $(\langle width, height \rangle)$  arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- packages
  - `array`, `longtable`: Fix for `\tabularnewline`.
  - `tabularx`, `tabulary`: Fix to require the `array` package.
  - `supertabular`, `xtab`: Fix to clear caption after use.
  - `graphics`: Added a warning if used the `\includegraphics` `scale` option.
  - `multirow`: Added an error if didn’t use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
  - `keyfloat`: Updated for v2.00, additional improvements.
  - Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

**v0.68:** Error handling, tabulars, footnotes.

- lwarpmk*
  - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- packages
  - `tabular`: Fix for `\warpprintonly`.
  - `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `lwarp`.

- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcpot`, `fncylab`.

**v0.67:** Filename generation, symbol fonts.

`docs`

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

`filenames`

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- `Core`, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

`packages`

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

**v0.66:** `xr`, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

`lateximage`

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the `jobname`, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options

```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

`filenames`

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

⚠ Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

`WINDOWS`

- Fix for `lwarpmk cleanimages` with `WINDOWS`.

`floats`

- Fixes for floats in the home page.

`lists, table notes`

- Improved css for definition lists, table notes.

`tabular`

- `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.

`indexing`

- `Indexing`: Fix for a long line of multiple entries.

`minipage`

- `\minipagefullwidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors
  - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML
  - Improved HTML output formatting.
- docs
  - Added discussion regarding invalid HTML. See section 8.1.1.
  - Added discussion regarding math in section names, `\imagegraphics` scale option. See section 6.
  - Added discussion regarding international languages in section names. See section 8.14.
- packages
  - `caption`: Fix for options clash.
  - `xr`, `xr-hyper`: Now compatible.
  - `subcaption`: Improved horizontal spacing.
  - `multicol`: Fix for minipage inside `multicols`.
  - `multicolrule`: Updated for v1.2.
  - `tocbasic`: Minor update.
  - `acronym`: Fix for acronym in float caption.
  - `kotexutf`: Patch with *pdflatex* and new lwarp labels.
  - `extramarks`, `fancyhdr`: Updated for v3.10.
  - `memoir`: Added docs regarding version numbers. See section 8.13.
  - `zref`: No longer required.
  - Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
  - Verified to work as-is with `changelog`.
  - Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.
- v0.65:** css layout, alt tags, Japanese.
- page layout
  - Moved the `sidetoc` to the left side, allowing improved css for margin notes.
  - Improved page layout css.
- image alt tags
  - `graphicx \includegraphics`: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
  - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
  - Fix for `tabular*`.
  - Fix for `tabular` border colors.
  - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
  - Added `ltj*` classes, `bounddvi`, `gentombow`, `ltxtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
  - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
  - Added support for `fontspec \textsi` and `\sishape`.
  - Added `multicol`'s `\docolaction`.
  - Added `embrace`, `footnoterange`, `multicolrule`, `versionotes`.



**v0.64:** Koma-Script, Japanese, Chinese.

- Japanese
  - Added `utarticle` and related classes.
  - Improved `ujarticle` and related classes.
- Chinese
  - Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script packages
  - Fixes for `sclayer`, `sclayer-scrpage`.
  - `addlines`: Updated to v0.3.
  - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

**v0.63:** `mdframed`, Chinese, Japanese, Korean

- localization
  - Added `\linkhomename`: A user-definable name for the **Home** link.
  - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
  - Fix: `\LinkHome` for print output.
- optimizations
  - Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
  - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
  - Fixes for `xeCJK`.
  - Added `xpinyin`, `zhlineskip`.
  - Verified to work with `cjkpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese
  - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
  - Added `bxjsarticle` and related classes.
  - Added `ltsarticle` and related classes.
  - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
  - Prevented `utarticle` and related classes.
  - Prevented `bcjkatype`.
- Korean
  - Verified to work with `kotex`, `xetexko`, `luatexko`.

**v0.62:** `MiKTeX` docs, `HTML` title, `CTEX`, `xeCJK`, `bitpattern`.

- docs
  - Docs: Setting a UTF-8 locale. See section 9.9.
- `MiKTeX`
  - `MiKTeX`: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
- `HTML <title>`
  - `HTML` subpage titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the `HTML <title>` displays the website name before or after the section name. See section 7.6.
- fixes
  - Fix for package options handling.
  - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
  - Logos: Fix for `XYTeX` logo, improved css, made robust, improved search-engine optimization.
  - `\[$1]`: Additional `HTML <br>` if  $\$1 > 0$  pt.
  - Fixes for `\includgraphics` filename, and with `FormatWP`.
  - Fix: css for `\textup`.
  - Fix: Added `\slshape`.
- Chinese
  - Added `ctex` package and related classes, `xeCJK`.
  - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.

## packages

- chemfig: Docs for new macro `\polymerdelim`.
- asymptote: Docs for compilation.
- chngpage: Fix to load `lwarp-changepage`.
- algorithm2e: Fix with non-book classes.
- register: Updated to v1.8.
- nicefrac: Improved font control and css, honors nice and ugly.
- units: Improved font control and css, honors tight and loose.
- xfrac: Improved css.
- textcomp and xunicode: Fix conflicts with `\textcircled`.
- ulem: Improved compatibility with CJKulem, `lateximage`.
- MATHJAX and siunitx: Removed inoperable extension.
- Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
- Added musicography, octave, semantic-markup.
- Added 2in1, flippdf, notespages, rviewport, twoup.

**v0.61:** Custom compilation, EPS-related packages, documentation, indexes.

## docs

- Split index into multiple indexes.
- Improved documentation regarding font selection. See section 7.4.
- Added documentation regarding debugging options. See section 35.
- Added documentation regarding HTML entities inside program listings. See section 8.2.1.

## custom compiling

- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of `lwarp` with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L<sup>A</sup>T<sub>E</sub>X engine, `--shell-escape`, and `lwarp` options. See section 9.

## ⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

## fixes

- Fix: Paragraph tags in a tabular.
- Fix: `supertabular` and `xtab` captions.
- Fix: DVI L<sup>A</sup>T<sub>E</sub>X `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

## packages

- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
- Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

**v0.60:** Fixes for `longtable`, listings.

## fixes

- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- `diagbox`: Fix for incorrect HTML par tags.

## packages

- Added 2up, booklet.
- Added bophook, drafftfigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

**v0.59:** DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

*lwarpmk*

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added
 

```
lwarpmk epstopdf <list-of-EPS-files>
```

 to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI *latex*

- Added support for DVI *latex*. See section 7.5.

*latexmk*

- Fix for `--shell-escape` with *latexmk*.

## math

- Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for nicefrac, units.
- Fix for `\[` and `\]` with `\displaymathnormal`.

## images

- Fix for `\includegraphics` filename expansion.
- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.

## packages

- Moved amsmath out of the *lwarp* core.
- Fix for chemformula `\NMR`.
- Added asymptote, pdftricks, pstricks, pst-eps.
- Added breqn, Slunits.
- Added bxpapersize, canoniclayout, draftcopy, fnbreak, nccfancyhdr.
- Added accsupp, axessibility.
- Added xunicode.
- Improved and now supports epstopdf.
- Tested to work as-is: eepic, sepfootnotes.

## docs

- Added information about setting up a development version of *lwarp*.

**v0.58:** Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

*lwarpmk*

- *lwarpmk*: Added the `-p` option to specify the project name.

## glossaries

- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.

## index and glossary

- Added `lwarp` option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.
- Docs: Extra indexing options. See section 8.6.14.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `lwarp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `lwarp` options. See section 7.5.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added `lwarp` option `makeindexStyle` to tell `lwarpmk` to use a custom style instead of `lwarp.ist`. See section 8.6.20.

## misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal `print/HTML` macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.

## packages

- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

**v0.57:** `algorithm2e`, float styles, tabular packages, internal improvements.

## MathJax

## math macros

## dynamic math

## △ new name

## lateximage alt tags

- Added support for `MATHJAX` equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.9.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to `svg` math images even when `MATHJAX` is enabled. See section 8.7.10.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` `HTML alt` tags. For `svg` math images, the `alt` tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the `alt` tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

```
(-xy- diagram)
```

See section 7.6.

- Fix: Improved `print/HTML` macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.

## misc. fixes

- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles ruled and boxed.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

**v0.56:** Shell escape, tabular packages.

- `lwarpmk`
  - Added
    - `lwarpmk pdftosvg <list-of-PDF-files>`
    - to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
  - Added support for `--shell-escape`. See section 7.3.
- `tabular`
  - Added support for array `w` and `W` columns.
  - Fix: `\multicolumn` parameter handling.
  - Added support for double `\hlines`, `\midrules`, and vertical rules.
  - Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.
- `misc. fixes`
  - Fix: `\thinspace`.
  - Fix: `paralist` compact environments.
- `packages`
  - Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
  - Added `bibunits`.
  - Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

**v0.55:** Various fixes.

- `misc fixes`
  - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
  - Fix: Float optional argument regression.
  - Fix: `\ForceHTMLTOC` with `\phantomsection`.
  - Fix: Overfull boxes in `lateximages`.
  - Fix: QED symbols in `lateximage`.
- `packages`
  - `koma-script`: Fix: Figure with `\centering`, etc.
  - Added `clrdblpg`.

**v0.54:** Float `\centering`, improved image checks.



Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.
- `lwarpmk`
  - `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.

BibTeX  
polyglossia

macros in section names  
document encoding  
⚠ New and revised  
encoding options

- *lwarpmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
–	<code>xindyCodepage</code>
–	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with `\centering`, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- L<sup>A</sup>T<sub>E</sub>X core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.

**v0.53:** Improved image checks.

*lwarpmk*

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

**v0.52:** Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X with `fontspec` and traditional font packages. See section 7.4.

SVG math

- Fix: Limit the number of background tasks when generating `Lateximages`.

- Added user-adjustable svg math font scaling. See section 84.3.
  - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
  - Improved `\ensuremath` hashing expansion.
  - Fix: `equation*` with `split`.
  - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
  - Fix: `MATHJAX` script was not executing in some conditions.
  - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- MathJax**
- Fix: Footnote numbering when using `HTMLDebugComments`.
- footnotes**
- Fix: Footnote paragraph tags.
  - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `lateximage`.
  - Fix: `\FileDepth`, `misc. others`, when input encoding is not `utf8`.
  - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
  - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
  - `nicefrac`: Added with fix for `\ensuremath`.
  - `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
  - `endfloat`: Updated for `v2.6`.
  - `url`: Fixes for active characters.

## 2 Introduction

The `lwarp` project aims to allow a rich  $\text{\LaTeX}$  document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force  $\text{\LaTeX}$  to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible  $\text{\LaTeX}$  concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

---

`lwarp` is a native  $\text{\LaTeX}$  package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in  $\text{\LaTeX}$ , `lwarp` has some advantages over other methods of `HTML` conversion.  $\text{\TeX}$  itself is still used, allowing a wider range of  $\text{\TeX}$  trickery to be understood. Lua expressions are still available with `LuaTeX`. Entire categories of  $\text{\LaTeX}$  packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `Tikz` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent `CTAN` updates, `CTAN` topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.<sup>1</sup>

---

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

---

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

---

<sup>1</sup>An amazing number of decades-old packages are still in use today.



svg images may be used for math, and are also used for `picture`, `Tikz`, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden<sup>2</sup> browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L<sup>A</sup>T<sub>E</sub>X source for the expression, allowing it to be copy/pasted into other documents.<sup>3</sup> Custom L<sup>A</sup>T<sub>E</sub>X macros may be used as-is in math expressions, since the math is evaluated entirely inside L<sup>A</sup>T<sub>E</sub>X. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.<sup>4</sup> `lwarp` maintains L<sup>A</sup>T<sub>E</sub>X control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

---

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L<sup>A</sup>T<sub>E</sub>X-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

`lwarp` automatically generates the extra files necessary for the HTML conversion, such as CSS and `.xdy` files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, `lwarp` first looks to see if it has its own modified version to use instead of the standard L<sup>A</sup>T<sub>E</sub>X version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

---

<sup>2</sup>FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

<sup>3</sup>There seems to be some debate as to whether MathML is actually an improvement over L<sup>A</sup>T<sub>E</sub>X for sharing math. The author has no particular opinion on the matter, except to say that in this case L<sup>A</sup>T<sub>E</sub>X is much easier to implement!

<sup>4</sup>One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

## 2.1 Typesetting conventions


Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

<code>package</code>	L <sup>A</sup> T <sub>E</sub> X package.
<i>program</i>	Program's executable name.
<code>option</code>	Program or package option.
<code>filename</code>	File name in the operating system.
<code>BRAND NAME</code>	Proper name for a program, operating system, etc.
<b>commands</b>	Commands to be entered by the user.
<code>code</code>	Program code.
<code>\macroname</code>	L <sup>A</sup> T <sub>E</sub> X macro.
<code>environment</code>	L <sup>A</sup> T <sub>E</sub> X environment.
<code>counter</code>	L <sup>A</sup> T <sub>E</sub> X counter.
<code>boolean</code>	L <sup>A</sup> T <sub>E</sub> X boolean.
<code>&lt;element&gt;</code>	HTML element.
<code>attribute</code>	HTML attribute.
<b>User Interface</b>	A user-interface item.
<code>ACRO</code>	Acronym.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**index entries** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

## 2.2 Supported packages and features

Table 2 lists some of the various L<sup>A</sup>T<sub>E</sub>X features and packages which may be used.

Package names are colored according to their support level:

**name:** Supported as-is.

**name:** Modified to work with HTML output, and perhaps also as print output in SVG math or `lateximage` environments.

**name:** Emulated for HTML output.

**name:** Ignored for HTML output, but provides source-level compatibility.

**MJ:** Supported as-is for MATHJAX, subject to limitations.

**MJ:** Emulated for MATHJAX using custom macros, subject to limitations.

**MJ:** Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L<sup>A</sup>T<sub>E</sub>X lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L <sup>A</sup> T <sub>E</sub> X, PDF L <sup>A</sup> T <sub>E</sub> X, X <sub>Ǝ</sub> L <sup>A</sup> T <sub>E</sub> X, LuaL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> X
L <sup>A</sup> T <sub>E</sub> X compiling:	<i>latexmk</i> , <i>make</i> , etc.
External compiling:	<i>perltex</i> , <i>pythontex</i> , <i>sympytex</i>
Classes:	article, book, report, scrartcl, scrbook, screprpt, memoir, CJK-related as listed below.
Koma-script:	<b>scxextend</b> , <b>scrhack</b> , <b>scllayer</b> . Others as listed below.
Memoir:	memhfixc
Beamer:	<b>beamerarticle</b> , but not the beamer class.
Languages:	<b>babel</b> , <b>ckjpunct</b> , <b>imprnatypo</b> , <b>luavlna</b> , <b>polyglossia</b> , <b>xeCJK</b> , <b>xevlna</b> .
Chinese:	C <sub>T</sub> E <sub>X</sub> , <b>ctex</b> , <b>upzhkinsoku</b> , <b>xpinyin</b> , <b>zhlineskip</b> , <b>zhspacing</b> .
Japanese:	upL <sup>A</sup> T <sub>E</sub> X, LuaT <sub>E</sub> X-ja, <b>gentombow</b> , <b>lltjext</b> , <b>plarray</b> , <b>plarydshln</b> , <b>plautopatch</b> , <b>plext</b> , <b>plextarray</b> , <b>plextarydshln</b> , <b>plextcolortbl</b> , <b>plextdelarray</b> , <b>pxatbegshi</b> , <b>pxeveryshi</b> , <b>pxftnright</b> , <b>pxgentombow</b> , <b>pxjahyper</b> , <b>pxpdfpages</b> , <b>pxpgfrcs</b> , <b>pxpgfmark</b> , <b>tascmac</b> , <b>zxjatype</b> . <b>bxjsarticle</b> and related, <b>ltjsarticle</b> and related, <b>luatexja</b> , <b>luatexja-fontspec</b> , <b>ujarticle</b> and related, <b>utarticle</b> and related.
Korean:	<b>kotex</b> , <b>luatexko</b> , <b>xetexko</b> .

## lwarp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, <a href="#">atbegshi</a> , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, <a href="#">changelayout</a> , <a href="#">changepage</a> , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, <a href="#">fancyhdr</a> , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, <a href="#">grid-system</a> , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, <a href="#">parallel</a> , <a href="#">parcolumns</a> , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, <a href="#">ragged2e</a> , returntgrid, rmpage, <a href="#">scrlayer-scrpage</a> , <a href="#">scrpage2</a> , <a href="#">setspace</a> , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. <a href="#">anonchap</a> , bsheaders, <a href="#">decorule</a> , fncychap, <a href="#">froufrou</a> , <a href="#">hypbmsec</a> , <a href="#">indentfirst</a> , <a href="#">quotchap</a> , section, <a href="#">sectionbreak</a> , <a href="#">secdot</a> , sectsty, titlesec, <a href="#">tocvsec2</a> .
Table of contents, figures, tables:	Supported, with hyperlinks. <a href="#">etoc</a> , <a href="#">minitoc</a> , <a href="#">multitoc</a> , <a href="#">shorttoc</a> , <a href="#">tableof</a> , <a href="#">titletoc</a> , <a href="#">tocbasic</a> , <a href="#">tocbibind</a> , <a href="#">tocdata</a> , <a href="#">tocloft</a> , <a href="#">tocstyle</a> , <a href="#">tocvsec2</a> .
Title page:	<code>\maketitle</code> , <code>titlepage</code> , <a href="#">authblk</a> , <a href="#">authaftertitle</a> , <a href="#">titling</a> .
Front & back matter:	<a href="#">abstract</a> , <a href="#">appendix</a> .
Indexing:	<a href="#">makeindex</a> , <a href="#">xindy</a> , and <a href="#">xindex</a> are supported, with hyperlinks. <a href="#">gindex</a> , <a href="#">hindex</a> , <a href="#">idxlayout</a> , <a href="#">imakeidx</a> , <a href="#">index</a> , <a href="#">makeidx</a> , <a href="#">repeatindex</a> , <a href="#">splitidx</a> , <a href="#">varindex</a> , <a href="#">xindex</a> .
Glossary:	<a href="#">gloss</a> , <a href="#">glossaries</a> and <a href="#">xindy</a> , <a href="#">nomencl</a> .
Bibliography:	<a href="#">babelbib</a> , <a href="#">bibtopic</a> , <a href="#">backref</a> , <a href="#">biblatex</a> , <a href="#">bibunits</a> , <a href="#">chapterbib</a> , <a href="#">cite</a> , <a href="#">citeref</a> , <a href="#">collref</a> , <a href="#">drftcite</a> , <a href="#">hypernat</a> , <a href="#">jurabib</a> , <a href="#">mcite</a> , <a href="#">mciteplus</a> , <a href="#">multibib</a> , <a href="#">natbib</a> , <a href="#">notes2bib</a> , <a href="#">splitbib</a> , <a href="#">showtags</a> .
Cross-references:	<a href="#">bookmark</a> , <a href="#">breakurl</a> , <a href="#">cleveref</a> , <a href="#">fancyref</a> , <a href="#">hypdestopt</a> , <a href="#">hyperref</a> , <a href="#">perpage</a> , <a href="#">prettyref</a> , <a href="#">titleref</a> , <a href="#">url</a> , <a href="#">varioref</a> , <a href="#">xcite</a> , <a href="#">xr</a> , <a href="#">xr-hyper</a> , <a href="#">xurl</a> , <a href="#">zref</a> .

## lwarp Supported Functions — continued

Category	Status
Margin notes:	marginal, marginfit, marginfix, <a href="#">sclayer-notecolumn</a> , <a href="#">versonotes</a> .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: <a href="#">bigfoot</a> , <a href="#">dblfnote</a> , <a href="#">endheads</a> , <a href="#">endnotes<sup>MJ</sup></a> , <a href="#">enotez<sup>MJ</sup></a> , <a href="#">fixfoot</a> , <a href="#">fnbreak</a> , <a href="#">fnpara</a> , <a href="#">fnpct</a> , <a href="#">fnpos</a> , <a href="#">footmisc</a> , <a href="#">footnote</a> , <a href="#">footnotebackref</a> , <a href="#">footnoterange</a> , <a href="#">footnpag</a> , <a href="#">manyfoot</a> , <a href="#">marginnote<sup>MJ</sup></a> , <a href="#">nccfoots<sup>MJ</sup></a> , <a href="#">pagenote<sup>MJ</sup></a> , <a href="#">parnotes<sup>MJ</sup></a> , <a href="#">pdfcolfoot</a> , <a href="#">pfnote</a> , <a href="#">sepfootnotes</a> , <a href="#">sidenotes<sup>MJ</sup></a> , <a href="#">tablefootnote</a> .
Math:	Converted to SVG images with HTML <alt> tags containing the L <sup>A</sup> T <sub>E</sub> X source for the math expression. MATHJAX supported as an alternative. <a href="#">amsmath<sup>MJ</sup></a> : $\mathcal{AMS}$ environments are supported. User-defined macros are available during conversion, due to native L <sup>A</sup> T <sub>E</sub> X processing.
Theorems:	Native L <sup>A</sup> T <sub>E</sub> X theorems, <a href="#">amsthm</a> , <a href="#">apxproof</a> , <a href="#">ntheorem</a> , <a href="#">shadethm</a> , <a href="#">theorem</a> , <a href="#">thmbox</a> , <a href="#">thmtools</a> .
Additional math:	Math fonts via SVG images, <a href="#">accents<sup>MJ</sup></a> , <a href="#">amscd<sup>MJ</sup></a> , <a href="#">amscdx</a> , <a href="#">autobreak<sup>MJ</sup></a> , <a href="#">autonum</a> , <a href="#">backnaur<sup>MJ</sup></a> , <a href="#">bm<sup>MJ</sup></a> , <a href="#">braket<sup>MJ</sup></a> , <a href="#">breqn<sup>MJ</sup></a> , <a href="#">bussproofs<sup>MJ</sup></a> , <a href="#">cases<sup>MJ</sup></a> , <a href="#">centernot<sup>MJ</sup></a> , <a href="#">cmbright<sup>MJ</sup></a> , <a href="#">colonequals<sup>MJ</sup></a> , <a href="#">decimal<sup>MJ</sup></a> , <a href="#">delarray</a> , <a href="#">DotArrow<sup>MJ</sup></a> , <a href="#">dotlessi<sup>MJ</sup></a> , <a href="#">dotlessj<sup>MJ</sup></a> , <a href="#">esvect<sup>MJ</sup></a> , <a href="#">extrarrows<sup>MJ</sup></a> , <a href="#">fixmath<sup>MJ</sup></a> , <a href="#">fouridx<sup>MJ</sup></a> , <a href="#">fourier<sup>MJ</sup></a> , <a href="#">guass</a> , <a href="#">hhtensor<sup>MJ</sup></a> , <a href="#">icomma<sup>MJ</sup></a> , <a href="#">isomath<sup>MJ</sup></a> , <a href="#">jkmath</a> , <a href="#">kpfonds<sup>MJ</sup></a> , <a href="#">kpfonds-otf<sup>MJ</sup></a> , <a href="#">leftidx<sup>MJ</sup></a> , <a href="#">libertinust1math<sup>MJ</sup></a> , <a href="#">mathalpha<sup>MJ</sup></a> , <a href="#">mathastext<sup>MJ</sup></a> , <a href="#">mathcomp<sup>MJ</sup></a> , <a href="#">mathdesign<sup>MJ</sup></a> , <a href="#">mathdots<sup>MJ</sup></a> , <a href="#">mathfixs<sup>MJ</sup></a> , <a href="#">mathpazo<sup>MJ</sup></a> , <a href="#">mathptmx<sup>MJ</sup></a> , <a href="#">mathpunctspace<sup>MJ</sup></a> , <a href="#">mathspec<sup>MJ</sup></a> , <a href="#">mathtools<sup>MJ</sup></a> , <a href="#">mattens<sup>MJ</sup></a> , <a href="#">maybemath<sup>MJ</sup></a> , <a href="#">mdwmath<sup>MJ</sup></a> , <a href="#">mismath<sup>MJ</sup></a> , <a href="#">mlefttright<sup>MJ</sup></a> , <a href="#">multiobjective<sup>MJ</sup></a> , <a href="#">nccmath<sup>MJ</sup></a> , <a href="#">nicematrix<sup>MJ</sup></a> , <a href="#">noitcrl<sup>MJ</sup></a> , <a href="#">newpxmath<sup>MJ</sup></a> , <a href="#">newtxmath<sup>MJ</sup></a> , <a href="#">newtxsf<sup>MJ</sup></a> , <a href="#">pb-diagram</a> , <a href="#">pxfonts<sup>MJ</sup></a> , <a href="#">resizegather<sup>MJ</sup></a> , <a href="#">rmathbr<sup>MJ</sup></a> , <a href="#">scalere<sup>MJ</sup></a> , <a href="#">shuffle<sup>MJ</sup></a> , <a href="#">skmath<sup>MJ</sup></a> , <a href="#">stackrel<sup>MJ</sup></a> , <a href="#">statex2<sup>MJ</sup></a> , <a href="#">statistics</a> , <a href="#">statmath<sup>MJ</sup></a> , <a href="#">subsupscripts<sup>MJ</sup></a> , <a href="#">tensind</a> , <a href="#">tensor<sup>MJ</sup></a> , <a href="#">textualicomma<sup>MJ</sup></a> , <a href="#">txfonts<sup>MJ</sup></a> , <a href="#">txgreeks<sup>MJ</sup></a> , <a href="#">unicode-math<sup>MJ</sup></a> , <a href="#">upgreek<sup>MJ</sup></a> , <a href="#">ushort<sup>MJ</sup></a> , <a href="#">witharrows<sup>MJ</sup></a> , <a href="#">xfakebold<sup>MJ</sup></a> , <a href="#">xy</a> . Many others work as-is.
Display math with \displaymathother:	Complicated math objects in display math, such as <a href="#">tikz-cd</a> , etc.

## lwarp Supported Functions — continued

Category	Status
Units and fractions:	<code>nicefrac<sup>MJ</sup></code> , <code>Slunits<sup>MJ</sup></code> , <code>siunitx<sup>MJ</sup></code> , <code>units<sup>MJ</sup></code> , <code>unitsdef</code> , <code>xfrac<sup>MJ</sup></code> .
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .
Tabular:	<code>tabular</code> environment, <code>array<sup>MJ</sup></code> , <code>arydshln<sup>MJ</sup></code> , <code>bigdelim<sup>MJ</sup></code> , <code>bigstrut<sup>MJ</sup></code> , <code>booktabs<sup>MJ</sup></code> , <code>colortbl<sup>MJ</sup></code> , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline<sup>MJ</sup></code> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow<sup>MJ</sup></code> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to SVG, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an SVG image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image-labels</code> , <code>xy</code>
xcolor:	Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L <sup>A</sup> T <sub>E</sub> X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L <sup>A</sup> T <sub>E</sub> X environments.
Paragraphs, minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox<sup>MJ</sup></code> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox<sup>MJ</sup></code> , <code>vertbars</code> .

## lwarp Supported Functions — continued

Category	Status
Multi-columns:	<a href="#">adjmulticol</a> , <a href="#">multicol</a> , <a href="#">multicolrule</a> , <a href="#">vwcol</a> .
Margins:	<a href="#">fullwidth</a> , <a href="#">hanging</a> , <a href="#">midpage</a> .
Line numbering:	<a href="#">fnlineno</a> , <a href="#">lineno</a> .
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <a href="#">cancel<sup>MJ</sup></a> , <a href="#">ellipsis</a> , <a href="#">embrac</a> , <a href="#">enparen</a> , <a href="#">hyphenat</a> , <a href="#">lettrine</a> , <a href="#">lips</a> , <a href="#">lua-check-hyphen</a> , <a href="#">luacolor</a> , <a href="#">magaz</a> , <a href="#">moresize</a> , <a href="#">nolbreaks</a> , <a href="#">normalcolor</a> , <a href="#">pdfcol</a> , <a href="#">pdfcolmk</a> , <a href="#">pdfrender</a> , <a href="#">realscripts</a> , <a href="#">resize<sup>MJ</sup></a> , <a href="#">scalefnt</a> , <a href="#">seqsplit<sup>MJ</sup></a> , <a href="#">soul</a> , <a href="#">soulpos</a> , <a href="#">soulutf8</a> , <a href="#">stackengine</a> , <a href="#">textfit</a> , <a href="#">thinsp</a> , <a href="#">trimclip</a> , <a href="#">truncate</a> , <a href="#">ulem</a> , <a href="#">umoline</a> , <a href="#">underscore</a> , <a href="#">uspace</a> , <a href="#">xellipsis</a> .
Acronyms:	<a href="#">acro</a> , <a href="#">acronym</a> .
Ordinals:	<a href="#">engord</a> , <a href="#">fmtcount</a> , <a href="#">nth</a> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <a href="#">thin-unbreakable</a> , <a href="#">unbreakable</a> , <a href="#">\enskip</a> , <a href="#">\quad</a> , <a href="#">\qqquad</a> , <a href="#">\hspace</a> .
Rules:	<code>\rule</code> with <a href="#">width</a> , <a href="#">height</a> , <a href="#">raise</a> , <a href="#">text color</a> .
HTML reserved characters:	<code>\&amp;</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in <a href="#">svg math expressions</a> or <a href="#">embedded image environments</a> . <a href="#">fontaxes</a> , <a href="#">nfssect-cfr</a> , <a href="#">slantsc</a> , <a href="#">tabfigures</a> . Tested to work as-is: Special font macros in <a href="#">cfr-lm</a> and others which use <a href="#">nfssect-cfr</a> . Also see the <a href="#">math</a> section for <a href="#">math</a> and <a href="#">MATHJAX</a> support for <a href="#">math font packages</a> .
Symbols:	Native $\text{\LaTeX}$ diacriticals, <a href="#">academicons</a> , <a href="#">amssymb<sup>MJ</sup></a> , <a href="#">bbding</a> , <a href="#">ccicons</a> , <a href="#">chemgreek</a> , <a href="#">dingbat</a> , <a href="#">euro</a> , <a href="#">eurosym</a> , <a href="#">fontawesome</a> , <a href="#">fontawesome5</a> , <a href="#">gensymb<sup>MJ</sup></a> , <a href="#">latexsym<sup>MJ</sup></a> , <a href="#">marvosym</a> , <a href="#">metalogo</a> , <a href="#">metalogox</a> , <a href="#">pifont</a> , <a href="#">textalpha</a> , <a href="#">textcomp<sup>MJ</sup></a> , <a href="#">textgreek</a> , <a href="#">typicons</a> , <a href="#">xunicode</a> .
Files:	<a href="#">attachfile</a> , <a href="#">attachfile2</a> , <a href="#">hyperxmp</a> , <a href="#">inputtrc</a> , <a href="#">intopdf</a> , <a href="#">pdfpages</a> , <a href="#">pdfx</a> , <a href="#">xmpincl</a> .

## lwarp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e, algorithmicx, ar <sup>MJ</sup> , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics <sup>MJ</sup> , elements, engtlc <sup>MJ</sup> , fast-diagram, ghsystem, hepnicensnames, heppennames, hepunits <sup>MJ</sup> , isotope <sup>MJ</sup> , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem <sup>MJ</sup> , minted, pgfgantt, phfqit, physics <sup>MJ</sup> , physunits <sup>MJ</sup> , plimsoll <sup>MJ</sup> , qcircuit, register, simplebnf, simpler-wick, slashed <sup>MJ</sup> , steinmetz <sup>MJ</sup> , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Academic:	academicons, classicthesis, doi, doipubmed, orcidlink <sup>MJ</sup> , termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment <sup>MJ</sup> , pdfmarginpar, todo, todonotes, tram, xexchangebar.
Accessibility:	accessibility <sup>MJ</sup> , accsupp <sup>MJ</sup> , aaccessibility <sup>MJ</sup> , pdfcomment <sup>MJ</sup> , repltext <sup>MJ</sup> , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.



### 3 Alternatives

Summarized below are several other ways to convert a  $\text{\LaTeX}$  or other document to  $\text{HTML}$ . Where an existing  $\text{\LaTeX}$  document is to be converted to  $\text{HTML}$ , `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

#### 3.1 internet class

Cls internet

The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of `markdown`, and also `HTML` and `EPUB`. <https://github.com/loopspace/latex-to-internet>

#### 3.2 $\text{\TeX4HT}$

Prog TeX4ht

<http://tug.org/tex4ht/>

Prog htlatex

This system uses native  $\text{\LaTeX}$  processing to produce a `DVI` file containing special commands, and then uses additional post-processing for the `HTML` conversion by way of numerous configuration files. In some cases `lwarp` provides a better `HTML` conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond `HTML`, including `ODT` and a direct path to `EPUB`, and is still being developed.

#### 3.3 Translators

These systems use external programs to translate a subset of  $\text{\LaTeX}$  syntax into `HTML`. Search for each on `CTAN` (<http://ctan.org>).

Prog Hevea

**H<sup>E</sup>v<sup>E</sup>a**: <http://hevea.inria.fr/> (not on `CTAN`)

Prog TtH

**T<sub>T</sub>H**: <http://hutchinson.belmont.ma.us/tth/>

Prog GELLMU

**GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

Prog LaTeXML

**$\text{\LaTeX}$ XML**: <http://dlmf.nist.gov/LaTeXML/>

Prog Plastex

**PlasTeX**: <https://github.com/tiarno/plastex>

Prog LaTeX2HTML

**$\text{\LaTeX}$ 2HTML**: <http://www.latex2html.org/>  
and <http://ctan.org/pkg/latex2html>.

Prog TeX2page

**TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may be used to directly insert  $\text{\LaTeX}$  math into `HTML`:

Prog GladTeX

**GladTeX**: <http://humenda.github.io/GladTeX/>

### 3.4 ASCII DOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L<sup>A</sup>T<sub>E</sub>X and HTML.

Prog AsciiDoc

**Asciidoctor:** <http://asciidoctor.org/> (More active.)

Prog AsciiDoctor

**AsciiDoc:** <http://asciidoc.org/> (The original project.)

#### 3.4.1 ASCIIDOCTOR-L<sup>A</sup>T<sub>E</sub>X

The Asciidoctor-LaTeX project is developing additional L<sup>A</sup>T<sub>E</sub>X-related features.

**Asciidoctor-LateX:**

<http://www.noteshare.io/book/asciidoctor-latex-manual>

<https://github.com/asciidoctor/asciidoctor-latex>

Prog Asciidoctor-LaTeX

### 3.5 PANDOC

Prog Pandoc

A markup system which also reads and writes L<sup>A</sup>T<sub>E</sub>X and HTML.

**Pandoc:** <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

### 3.6 Word processors

Prog Word

Prog LibreOffice

Prog OpenOffice

It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L<sup>A</sup>T<sub>E</sub>X-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. See recent developments in MICROSOFT<sup>®</sup> *Word*<sup>®</sup> and LIBREOFFICE<sup>™</sup> *Writer*.

### 3.7 Commercial systems

Prog Adobe

Prog FrameMaker

Prog InDesign

Prog Flare

Prog Madcap

Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE<sup>®</sup> *FrameMaker*<sup>®</sup>, ADOBE *InDesign*<sup>®</sup>, and MADCAP *Flare*<sup>™</sup>.

### 3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L<sup>A</sup>T<sub>E</sub>X spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster

entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L<sup>A</sup>T<sub>E</sub>X is comparably easy to learn, while L<sup>A</sup>T<sub>E</sub>X provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L<sup>A</sup>T<sub>E</sub>X vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L<sup>A</sup>T<sub>E</sub>X back end, yielding high-quality results especially when the L<sup>A</sup>T<sub>E</sub>X template is adjusted, but they lose the ability to use L<sup>A</sup>T<sub>E</sub>X macros and other L<sup>A</sup>T<sub>E</sub>X source-document features.

The effort required to customize the output of each markup system varies. For print output, L<sup>A</sup>T<sub>E</sub>X configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, CSS is used, and much HTML output is adjusted through the usual L<sup>A</sup>T<sub>E</sub>X optional macro parameters, but further customization may require patching L<sup>A</sup>T<sub>E</sub>X code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

## 4 Installation

Table 3 shows the tools which are used for the L<sup>A</sup>T<sub>E</sub>X to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

**Provided by your L<sup>A</sup>T<sub>E</sub>X distribution:**

From T<sub>E</sub>XLive: <http://tug.org/texlive/>.

**L<sup>A</sup>T<sub>E</sub>X:** *pdflatex*, *xelatex*, or *lualatex*.

**The lwarp package:** This package.

**The *lwarpmk* utility:** Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L<sup>A</sup>T<sub>E</sub>X code. On a M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

**POPPLER PDF utilities:**

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> provides *miktex-poppler-bin-\** packages.

From POPPLER: [poppler.freedesktop.org](http://poppler.freedesktop.org).

For MACOS<sup>®</sup>, see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> *miktex-poppler-bin-\**, or:

<https://sourceforge.net/projects/poppler-win32/> and:  
<http://blog.alivate.com.au/poppler-windows/>

**Perl:**

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

[strawberryperl.com](http://strawberryperl.com) (recommended), [perl.org](http://perl.org)

**Automatically downloaded from the internet as required:**

**MATHJAX:** Optionally used to display math. From: [mathjax.org](http://mathjax.org)

## 4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

**Pre-installed:** Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

**TeX Live:** If using a TeX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

**MiKTeX:**

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

**Operating-system package:** The operating-system package manager may already have lwarp, perhaps as part of a set of TeX-related packages.

**CTAN TDS archive:** lwarp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TeX local directory:

**TeX Live:**

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

**MiKTeX:**

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— OR —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

**CTAN .dtx and .ins files:** Another form of TeX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive lwarp.zip into your own lwarp directory.
3. Unpack lwarp.zip.

4. Locate the contents `lwarp.dtx` and `lwarp.ins`

5. Create the `.sty` files:

```
Enter ⇒ pdflatex lwarp.ins
```

6. Create the documentation:

---

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

---

7. Copy the `.sty` files somewhere such as the T<sub>E</sub>X Live local tree found in the previous CTAN TDS section, under the subdirectory:

```
<texlocal>/tex/latex/local/lwarp
```

8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.

9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:

```
<texlocal>/doc/local/lwarp
```

10. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiK<sub>T</sub>E<sub>X</sub>, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of *lwarpmk*.

12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

**Project-local CTAN `.dtx` and `.ins` files:** The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test *lwarp* before deciding whether to permanently install it.

Just testing!

## 4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the *lwarp* package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK<sub>T</sub>E<sub>X</sub>, try updating the `miktex-misc` package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T<sub>E</sub>X Live or M<sub>I</sub>KT<sub>E</sub>X system you may use

Enter ⇒ `kpsewhich lwarpmk.lua`

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

**Unix:** Create a symbolic link and make it executable:

- (a) Locate the T<sub>E</sub>X Live binaries:

Enter ⇒ `kpsewhich -var-value TEXMFROOT`

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter ⇒ `ln -s <path to lwarpmk.lua> lwarpmk`

- (c) Make the link executable:

Enter ⇒ `chmod 0755 lwarpmk`

**WINDOWS T<sub>E</sub>X Live:** Create a new `lwarpmk.exe` file:

- (a) Locate the T<sub>E</sub>X Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

**WINDOWS M<sub>I</sub>KT<sub>E</sub>X:** Create a new `lwarpmk.bat` file:

- (a) Locate the M<sub>I</sub>KT<sub>E</sub>X binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

### 4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:



**Unix:**

(a) Make `lwarpmk.lua` executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

(b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

(c) It may be useful to rename or link to a version without the `.lua` suffix.

**WINDOWS:**

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

### 4.3 Installing additional utilities

**To test for the existence of the additional utilities:**

Enter the following in a command line. If each program's version is displayed, then that utility is already installed. See table 3 on page 77.

Enter ⇒ `luatex --version`

Enter ⇒ `xindy --version`

Enter ⇒ `latexmk --version`

Enter ⇒ `perl --version`

Enter ⇒ `pdfcrop --version`

Enter ⇒ `pdftotext -v`

Enter ⇒ `pdfseparate --version`

Enter ⇒ `pdftocairo -v`

**To install *xindy*, *latexmk*, and *pdfcrop*:**

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the CTAN archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

**To install the POPPLER utilities to a UNIX/LINUX system:**

The tools from the POPPLER project should be provided by your operating system's package manager.

**To install the POPPLER utilities to a MACOS machine:**

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

Prog [requirement] pdftotext  
 Prog [requirement] pdfseparate  
 Prog [requirement] pdftocairo

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

#### To install the POPPLER utilities to a WINDOWS machine:

If using MikTEX, install a miktex-poppler-bin-\* package. Otherwise:

1. See table 3 on page 77.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:  
C:\Users\\Desktop\Poppler\poppler-0.5\_x86\poppler-0.5\bin  
Be sure to include \bin.
9. Click **Ok** when done.

Prog [requirement] perl

#### To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:  
C:\Strawberry\perl\bin  
Be sure to include \bin.
4. Click **Ok** when done.

**Any utilities installed by hand must be added to the PATH.**

## 5 Tutorial

This section shows an example of how to create an `lwarp` document.

Need help?

---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

### 5.1 Starting a new project

1. Create a new project directory called `tutorial`.
2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

**Copy from the documentation PDF:**

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

**Copy from the lwarp documentation directory:**

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

*When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.*

3. Compile the project:
 

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(*xelatex* or *lualatex* may be used as well. `lwarp` also supports DVI *latex* for use with `.eps` images.)
4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L<sup>A</sup>T<sub>E</sub>X engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

File `tutorial.tex`

File `lwarp_tutorial.txt`

⚠ Note: `.txt` suffix!

⚠ Bad formatting!

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,       % Language for xindy index, glossary.
% latexmk,                      % Use latexmk to compile.
% OSWindows,                    % Force Windows. (Usually automatic.)
% mathjax,                       % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}

\begin{document}

\maketitle % Or titlepage/titlingpage environment.
```

```

% An article abstract would go here.

\tableofcontents           % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

- tutorial.pdf:** The PDF output from L<sup>A</sup>T<sub>E</sub>X. The print version of the document.
- tutorial\_html.tex:** A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
- Auxiliary files:** The usual L<sup>A</sup>T<sub>E</sub>X files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, \_html versions of the auxiliary files will also be generated.
- lwarpmk.conf:** A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.
- tutorial.lwarpmkconf:** Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.
- .css files:** *lwarp.css*, *lwarp\_formal.css*, *lwarp\_sagebrush.css* These files are standard for *lwarp*, and are not meant to be modified by the user.
- sample\_project.css:** An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.
- lwarp.ist:** Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp.xdy:** Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp\_one\_limage.txt:** For WINDOWS only. Used to process SVG images in the background. Copied to *lwarp\_one\_limage.cmd* when images are generated.
- lwarp\_mathjax.txt:** Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.
- comment\_\*.cut:** Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

---

When the *lwarpmk* option is given to the *lwarp* package:

**lwarpmk.lua:** A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

## 5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

### △ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Re-compile the print version:

Enter ⇒ **lwarpmk print**

*lwarpmk* prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.

4. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.<sup>5</sup>

6. Process the index.<sup>6 7</sup>

Enter ⇒ **lwarpmk printindex**

7. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

8. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

<sup>5</sup>Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

<sup>6</sup>The command `lwarpmk printglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

<sup>7</sup>Also see section 8.6.15 for index options.

### 5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

#### ⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

```
Enter ⇒ lwarpmk html
```

- (a) *lwarpmk* uses L<sup>A</sup>T<sub>E</sub>X to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`<sup>8</sup>, `Some-math.html`, and the document's index in `_Index.html`.<sup>9</sup>

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

#### math images

Note that math images have not yet been generated, so math is still displayed as its `alt` tag, which is set to the plain-text L<sup>A</sup>T<sub>E</sub>X source for that expression. Math may be displayed as SVG images (section 5.4) or by a MATHJAX script (section 5.5).

4. Force a recompile:

```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

5. Process the HTML index and recompile:<sup>1011</sup>

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

`_Index.html` is updated for the new L<sup>A</sup>T<sub>E</sub>X index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

```
Enter ⇒ lwarpmk html1
```

<sup>8</sup>`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

<sup>9</sup>`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

<sup>10</sup>The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

<sup>11</sup>Also see section 8.6.15 for index options.



## 5.4 Generating the SVG images

**math as SVG images** By default `lwarp` represents math as SVG images, with the  $\LaTeX$  source included in `alt` attributes. In this way, the math is displayed as it was drawn by  $\LaTeX$ , and the  $\LaTeX$  source may be copied and pasted into other documents.


**picture and Tikz** `lwarp` uses the same mechanism for `picture` and `Tikz` environments.

1. Create the SVG images:


```
Enter ⇒ lwarpmk limages
```


```
Enter ⇒ lwarpmk html
```

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the  $\LaTeX$  source.

 **adding/removing** When a math expression, `picture`, or `Tikz` environment is added or removed, the SVG images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

**recompile first** Before attempting to create the SVG image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.<sup>12</sup> If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the  $\LaTeX$  recompile warnings.

 **HTML instead of images** If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

**Lots of files!** Expressing math as SVG images has the advantage of representing the math exactly as  $\LaTeX$  would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its  $\LaTeX$  source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

<sup>12</sup>This becomes important when dealing with a document containing thousands of images.

## 5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L<sup>A</sup>T<sub>E</sub>X source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L<sup>A</sup>T<sub>E</sub>X, and it may not support some math-related packages.

## 5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSfilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSfilename{lwarp_sagebrush.css}
```

See section 7.7 for more information about modifying the css styling of the document.

## 5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section 7.6 for more information.

## 5.8 Using *latexmk*

*latexmk* is a L<sup>A</sup>T<sub>E</sub>X utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

*lwarp* updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

[forced single-pass recompile](#)

## 5.9 Using Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX

Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX may be used instead of L<sup>A</sup>T<sub>E</sub>X.

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— *or* —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which T<sub>E</sub>X engine was used. Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

## 5.10 Using DVI L<sup>A</sup>T<sub>E</sub>X


Traditional DVI L<sup>A</sup>T<sub>E</sub>X may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

## 5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

### 5.11.1 `gloss` package

See section [8.6.11](#).

### 5.11.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.12](#) to set options for processing glossaries.

## 5.12 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

## 5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

## 5.14 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, `tikz`, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

## 5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. `pdftocairo` and `epstopdf` may be used one image at a time, but `lwarpmk` also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```


Be sure to always provide SVG files for HTML output.

## 5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

## 5.17 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. `lwarpmk` has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarpmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

## 5.18 Using the *make* utility

*lwarpmk* has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

*make* may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.



## 5.19 What next?

**How do I do something?** See the [General Index](#).

**Something do not work!** See the [Troubleshooting Index](#) or section [13: Troubleshooting](#).

**Package options:** See section [29, Package options](#).

**HTML and filename settings:** See section [7.6, Customizing the HTML output](#).

**Footnote placement:** See section [7.6, Customizing the HTML output](#).

**Title page, indexing, glossaries:** See section [8.6, Front and back matter](#).

**Shell escape:** See section [7.3, Shell escape](#).

**css customization:** See section [7.7, Customizing the css](#).

**MATHJAX customization:** See section [8.7.7, Customizing MATHJAX](#).

**Localization:** (languages) — See section [7.1, Localization](#).

**Accessibility:** (alt and title tags) — See section [7.2, Accessibility](#).

**Converting an existing document:** See section [6, Converting an existing document](#).

**EPUB conversion:** See section [10, EPUB conversion](#).

**Word processor conversion:** See section [11, Word-processor conversion](#).

## 6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load lwarp.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

- (b) Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtable`, `bigdelim`. See section 8.10.1.

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

- (f) If using indexes, see section 8.6.15.

- (g) If using many indexes, glossaries, `.aux` files, etc., see section 8.6.15 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `Tikz`, etc.

---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

[Need help?](#)

[math in section names](#)

[scale](#)

[tabular](#)

[package options](#)

[indexes](#)

Table 5: Localization settings

**Object names:** L<sup>A</sup>T<sub>E</sub>X provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

**\abstractname:** This macro is honored by lwarp.

**\linkhomename:** Displayed by the link to the homepage.

**\linkpreviousname:** Displayed by the link to the previous page

**\linknextname:** Displayed by the link to the next page.

**\sitetocname:** Displayed at the head of the sideroc.

**HTML settings:** See table 8 and section 7.6 for details.

**\HTMLLanguage:** The language to declare for each web page.

**\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen, \AltTextClose:** The defaults used for HTML alt text for images. See section 7.2.

**\CSSFilename:** The name of the css file to use.

**\MathJaxFilename:** The name of the MATHJAX script to use.

**Package options:**

**ImagesName and ImagesDirectory:** These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

**xindyStyle, xindyLanguage, xindyCodepage:** When using *xindy*, these options may be set according to local use. See section 8.6.21.

**pdftotextEnc:** To adjust the encoding of *pdftotext*.

## 7 Additional details

### 7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

### 7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

**\ImageAltText:** The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

**\includegraphics alt key:** For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

**svg math:** For simple SVG math, `lwarp` places the L<sup>A</sup>T<sub>E</sub>X math expression in the alt text, so that the L<sup>A</sup>T<sub>E</sub>X expression may be copied and pasted to another document as plain text.

**\MathImageAltText:** For complicated SVG math, such as enclosed in `\InlineMathOther`/`\InlineMathNormal`, or `\DisplayMathOther`/`\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

**MATHJAX:** For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

**\PackageDiagramAltText:** Various packages create diagrams which `lwarp` converts into SVG images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

**\ThisAltText:** The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.






**\AltTextOpen and \AltTextClose:** By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

### 7.3 Shell escape

Opt `--shell-escape`

Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

### 7.4 Font and UTF-8 support

-  **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.
- vector fonts**  
**Computer Modern**  
 `pdflatex`  
 `DVI latex`  
While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.
- Pkg `cm-super` To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.
- Pkg `lmodern` To use Latin Modern instead, add
- ```
usepackage{lmodern}
```
- to the preamble.
- Pkg `dejavu` Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:
- ```
\usepackage{dejavu}
```
- latex, pdflatex, T1, UTF8** While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.
-  **xelatex, luatex, fontspec** X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X users must use the `fontspec` package. Do NOT use `fontenc`! Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.
-  **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:
1. `documentclass{article/book/report}` comes first, followed by any of:
  2. Font and UTF-8 related commands:
    - For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X:
      - `fontspec` and font choices
- Pkg `fontspec`
- ligatures** `lwarp` sets the following to turn off T<sub>E</sub>X ligatures during the generation of HTML tags, and turn off common ligatures in regular text,

since older browsers may not display them correctly and newer browsers can automatically re-create them.

---

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

---

- For *pdflatex*:

Pkg lmodern  
 Pkg fontenc  
 Pkg inputenc  
 Pkg inputenx  
 Pkg newunicodechar  
 File glyphtounicode.tex

- (a) `\usepackage{lmodern}`, or other font-related packages
- (b) `\usepackage[T1]{fontenc}`
- (c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.
- (d) `\usepackage{newunicodechar}` along with related definitions.
- (e) To assist with the PDF-HTML conversion:
  - i. `\input glyphtounicode.tex`
  - ii. `\input glyphtounicode-cmr.tex`% from the pdfx package
  - iii. `\pdfgentounicode=1`

 **dotless j**

Pkg cmap  
 Pkg mmap  
 Pkg textcomp

- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (`\j`):
  - `\usepackage{cmap}` — or —
  - `\usepackage{mmap}` — or —
  - `\usepackage[noTeX]{mmap}`
- (g) `\usepackage{textcomp}`

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

 **fontspec with monospaced fonts**



5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.


Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
. . .
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

 **JETBRAIN MONO**  
 **HTML corrupted**

 **UTF-8 locale** In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

### 7.4.1 Indexes, glossaries, and encoding

`lwarp` supports `makeindex`, `xindy`, `xindex`, and `glossaries`, `gloss`, and `nomencl`.

See section 8.6.14 for indexing, and section 8.6.12 for the `glossaries` package.

## 7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent KOMA-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

lwarp package options are as follows:

Pkg	lwarp	
Opt	mathsvg	<b>mathsvg</b> and <b>mathjax</b> : Selects SVG images or MATHJAX for math display. See section 8.7.
Opt	mathjax	
		Default: mathsvg
Opt	latexmk	<b>latexmk</b> : Tells <i>lwarpmk</i> to use <i>latexmk</i> to recompile the document several times if necessary. Otherwise, <i>lwarpmk</i> attempts to determine for itself whether to recompile. See section 7.6.
Opt	dvips	<b>dvips</b> : Tells <i>lwarpmk</i> to use <i>dvips</i> and <i>ps2pdf</i> to convert DVI output to PDF.
Opt	dvipdfm	<b>dvipdfm</b> : Tells <i>lwarpmk</i> to use <i>dvipdfm</i> to convert DVI output to PDF.
Opt	dvipdfmx	<b>dvipdfmx</b> : Tells <i>lwarpmk</i> to use <i>dvipdfmx</i> to convert DVI output to PDF.
Opt	HomeHTMLfilename	<b>HomeHTMLfilename</b> :  Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:  HomeHTMLfilename=index  causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLfilename and HTMLfilename options, but may need to be escaped elsewhere, such as when appearing in a list:  <code>\item [\href{file\_name.pdf}{text}] \</code>  See section 7.6.1 for examples of naming and numbering HTML files.
	Default: \BaseJobname	
	<a href="#">filename underscores</a>	
Opt	HTMLfilename	<b>HTMLfilename</b> : A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.
	Default: <empty>	
Opt	ImagesName	<b>ImagesName</b> : The prefix for the images automatically generated by lwarp for objects such as svg math and lateximages.
	Default: image-	
Opt	ImagesDirectory	<b>ImagesDirectory</b> : The directory for the images automatically generated by lwarp for objects such as svg math and lateximages. By default, these images will appear in a directory named <jobname>-images, and the images will be named and numbered image-<nn>.
	Default: \jobname-images	

Table 7: Lwarp package options

Option	Description
<code>mathsvg</code>	Show math using SVG images.
<code>mathjax</code>	Show math using MATHJAX.
<code>latexmk</code>	Use <i>latexmk</i> for compiling documents.
<code>dvips</code>	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
<code>dvipdfm</code>	Use <i>dvipdfm</i> to convert DVI documents.
<code>dvipdfmx</code>	Use <i>dvipdfmx</i> to convert DVI documents.
<code>HomeHTMLFilename</code>	The filename of the home page.
<code>HTMLFilename</code>	A prefix for the filenames of the remaining web pages.
<code>ImagesName</code>	A prefix for the filenames of generated images.
<code>ImagesDirectory</code>	The directory used to hold generated images.
<code>PrintLatexCmd</code>	The shell commands for <b>lwarpmk print</b> .
<code>HTMLLatexCmd</code>	The shell commands for <b>lwarpmk html</b> .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
<code>makeindex</code>	Use <i>makeindex</i> to generate indices.
<code>makeindexStyle</code>	Set a custom style for <i>makeindex</i> .
<code>xindy</code>	Use <i>xindy</i> to generate indices.
<code>xindyStyle</code>	Set a custom style for <i>xindy</i> .
<code>xindyLanguage</code>	The <i>xindy</i> language option used for index generation.
<code>xindyCodepage</code>	The <i>xindy</i> codepage option used for index generation.
<code>xindex</code>	Use <i>xindex</i> to generate indices.
<code>xindexConfig</code>	Set a custom configuration file for <i>xindex</i> .
<code>PrintIndexCmd</code>	Shell commands executed by <b>lwarpmk printindex</b> .
<code>HTMLIndexCmd</code>	Shell commands executed by <b>lwarpmk htmlindex</b> .
<code>LatexmkIndexCmd</code>	Shell commands executed by <i>latexmk</i> .
<code>IndexRef</code>	How to format index links.
<code>GlossaryCmd</code>	Shell command executed by <b>lwarpmk printglossary</b> and <b>lwarpmk htmlglossary</b> .
Seldom necessary:	
<code>OSWindows</code>	Force compatibility with MS-WINDOWS.
<code>pdftotextEnc</code>	Set the encoding for <i>pdftotext</i> .
<code>lwarpmk</code>	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
<code>warpprint</code>	Generate print output, and also generate configuration files.
<code>warphTML</code>	Generate HTML output.
<code>BaseJobname</code>	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.



Opt	PrintLatexCmd Default: <automatic>	<b>PrintLatexCmd:</b> Sets the shell commands executed by <b>lwarpmk print</b> . If not specified, will automatically be set according to the detected L <sup>A</sup> T <sub>E</sub> X engine and the use of <code>--shell-escape</code> .
Opt	HTMLLatexCmd Default: <automatic>	<b>HTMLLatexCmd:</b> Sets the shell commands executed by <b>lwarpmk html</b> . If not specified, will automatically be set according to the detected L <sup>A</sup> T <sub>E</sub> X engine and the use of <code>--shell-escape</code> .
Opt	makeindex Default: makeindex	<b>makeindex:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <i>makeindex</i> when generating indexes with <b>lwarpmk printindex</b> , <b>lwarpmk htmlindex</b> , or <i>latexmk</i> . If neither <code>makeindex</code> nor <code>xindy</code> is used, <code>makeindex</code> is assumed.
Opt	makeindexStyle Default: lwarp.ist	<b>makeindexStyle:</b> If you wish to use a custom <code>.ist</code> file for index generation, see section 8.6.20.
Opt	xindy Default: makeindex	<b>xindy:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <i>xindy</i> when generating indexes with <b>lwarpmk printindex</b> , <b>lwarpmk htmlindex</b> , or <i>latexmk</i> .
Opt	xindyStyle Default: lwarp.xdy	<b>xindyStyle:</b> If you wish to use a custom <code>.xdy</code> file for index generation, see section 8.6.21.
Opt	xindyLanguage Default: english	<b>xindyLanguage:</b> If using an index or glossary, see section 29.
Opt	xindyCodepage Default: utf8	<b>xindyCodepage:</b> If using an index, see section 29.
Opt	xindex Default: makeindex	<b>xindex:</b> Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use <i>xindex</i> when generating indexes with <b>lwarpmk printindex</b> , <b>lwarpmk htmlindex</b> , or <i>latexmk</i> .
Opt	xindexConfig Default: <empty>	<b>xindexConfig:</b> If you wish to use a custom <code>xindex-*.lua</code> file for index generation, see section 8.6.22.
Opt	PrintIndexCmd Default: <automatic>	<b>PrintIndexCmd:</b> Sets the shell commands executed by <b>lwarpmk printindex</b> . If not specified, will be set by the selection of <code>makeindex</code> or <code>xindy</code> . May be used to specify the creation of multiple indexes. See section 8.6.15.

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

#### automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

#### ⚠ xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TeX`, written to a file, read from the file by `LuaTeX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt HTMLIndexCmd Default: <automatic>	<p><b>HTMLIndexCmd:</b> Sets the shell commands executed by <code>lwarpmk htmlindex</code>. If not specified, will be set by the selection of <code>makeindex</code> or <code>xindy</code>. May be used to specify the creation of multiple indexes. See section 8.6.15.</p> <p>Example settings are similar to <code>PrintIndexCmd</code>, but append <code>_html</code> to the filenames:</p> <pre>makeindex -s lwarp.ist projectname_html.idx      (makeindex) xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)</pre> <p>The use of the <code>makeindex</code> or <code>xindy</code> options sets <code>HTMLIndexCmd</code> to sensible values for each of those programs while compiling a single index. <code>lwarp</code>'s <code>makeindexStyle</code>, <code>xindyStyle</code>, <code>xindyLanguage</code>, and <code>xindyCodepage</code> options will be used if specified.</p> <p>If specifying <code>HTMLIndexCmd</code> manually, be sure to assign an <i>xindy</i> language and codepage with the <code>-L</code> and <code>-C xindy</code> options, as the <code>lwarp xindyLanguage</code> and <code>xindyCodepage</code> options are not used for the <code>HTMLIndexCmd</code> option when it is set manually.</p> <p>As with <code>PrintIndexCmd</code>, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with <code>HTMLIndexCmd</code>.</p>
Opt LatexmkIndexCmd Default: <automatic>	<p><b>LatexmkIndexCmd:</b> Sets the shell commands executed by <code>latexmk</code>. Unlike <code>PrintIndexCmd</code> and <code>HTMLIndexCmd</code>, <code>LatexmkIndexCmd</code> does not include any filenames, which will be provided instead by <code>latexmk</code>. See section 8.6.15.</p> <p>Example settings are similar to <code>PrintIndexCmd</code>, but without a filename:</p> <pre>makeindex -s lwarp.ist                          (makeindex) xindy -M lwarp.xdy -L english -C utf8           (xindy)</pre> <p>The use of the <code>makeindex</code> or <code>xindy</code> options sets <code>LatexmkIndexCmd</code> to either of the two settings show above. <code>lwarp</code>'s <code>makeindexStyle</code>, <code>xindyStyle</code>, <code>xindyLanguage</code>, and <code>xindyCodepage</code> options will be used if specified. Unlike <code>PrintIndexCmd</code> and <code>HTMLIndexCmd</code>, <code>latexmk</code> uses either of the single-line settings of <code>LatexmkIndexCmd</code> shown above to compile each of multiple indexes if necessary.</p> <p>If specifying <code>LatexmkIndexCmd</code> manually, be sure to assign an <i>xindy</i> language and codepage with the <code>-L</code> and <code>-C xindy</code> options, as the <code>lwarp xindyLanguage</code> and <code>xindyCodepage</code> options are not used for the <code>LatexmkIndexCmd</code> option when it is set manually.</p>
Opt IndexRef Default: cref	<p><b>IndexRef:</b> Describes how to display the index entries for HTML output. Possible values are <code>ref</code>, <code>nameref</code>, <code>refnameref</code>, <code>cref</code>, <code>crefnameref</code>, <code>autoref</code>, or a text string such as <code>(link)</code> or <code>(*)</code> for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is <code>cref</code>, which is available even if the print document does</p>

not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as (\*) instead of ??.



??

If using `cref` (the default), and if a reference appears as ?? with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using (\*) or similar yields a very compact index.

Opt `GlossaryCmd`  
     Default: `makeglossaries`  
**GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt `OSWindows`  
**OSWindows:** `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

Opt `pdftotextEnc`  
     Default: `UTF-8`  
**pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.

Opt `lwarpmk`  
**lwarpmk:** If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 29.

---

The following options are used internally by `lwarp`, and usually are not used in the user's document:

---

Opt `warpprint`  
 Opt `warpHTML`  
**warpprint** and **warpHTML:** Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

Opt `BaseJobname`  
     Default: `\jobname`  
**BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the `*_html.tex` file used to compile the HTML version. See section 29.

## 7.6 Customizing the HTML output

### ⚠ Placement!

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

### ⚠ Changes!

Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk cleanall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

### Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLFirstPageTop:</b> <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLFirstPageBottom:</b> <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: <code>Home</code>	<b>\linkhomename:</b> Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: <code>Previous</code>	<b>\linkpreviousname:</b> Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: <code>Next</code>	<b>\linknextname:</b> Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
Ctrl <code>tocdepth</code>	<b>tocdepth:</b> Sectioning depth of the table of contents. See section 16 for a list of L <sup>A</sup> T <sub>E</sub> X stack depths.
Ctrl <code>SideTOCDepth</code> Default: <code>1</code> <code>sideroc</code>	<b>SideTOCDepth:</b> Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections.  Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to <b>Home</b> at the top and bottom.  It is recommended to set:  <code>SideTOCDepth=FileDepth</code>  or

Table 8: HTML settings

Macro/Cntr/Bool	Loc*	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidetocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {&lt;text&gt;}</code>	PD	Assigns an alt / title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The svg math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The css for the following files.
<code>\MathJaxFilename</code>	PS	The MATHJAX script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <title>, overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <title>s to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <title>s to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML description meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\HTMLnewcolumntype</code>	D	<code>\newcolumntype</code> for HTML.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

\* **P:** Preamble, **D:** Anywhere in the document. **S:** Before a section.

SideTOCDepth = FileDepth + 1

 **inaccessible pages**

If SideTOCDepth < FileDepth, web pages will be inaccessible via the sidetoc.

\sidetocname  
Default: Contents

**\sidetocname:** Name of the sidetoc. Paragraphs are allowed. Redefine with \renewcommand.

Ctrl FileDepth  
Default: -5

**FileDepth:** Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:  
`\setcounter{FileDepth}{-5}`
- To split the HTML file at \section depth, use:  
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:  
Place a \tableofcontents somewhere before the first section break (therefore in the “home page”), and set  
`tocdepth >= FileDepth`




Bool CombineHigherDepths  
Default: true

**CombineHigherDepths:** Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.

 **Inaccessible pages!**

 **Lost in an old page!**

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change FileDepth and/or CombineHigherDepths, then finally recompile and navigate to the desired page using the new file structure.

Bool FileSectionNames  
Default: true

**FileSectionNames:** If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the HTMLFilename option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

 **Unique filename!**

\FilenameLimit  
Default: 80

**\FilenameLimit:** The maximum length of the filenames generated by lwarp. “.html” is added to this length. Redefine with \renewcommand.

Ctrl FootnoteDepth  
Default: 3

**FootnoteDepth:** Determines where to place pending footnotes. 3 places footnotes before each break down to the \subsubsection level. 1 places footnotes before each \section break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool FixSmallCaps  
Default: false

**FixSmallCaps:** Set true if SMALL CAPS are rendering in all caps (“SMALL

CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.

Bool HTMLDebugComments Default: false	<b>HTMLDebugComments:</b> Set true to generate HTML comments, such as which section or <div> is being opened or closed.
\abstractname Default: Abstract	<b>\abstractname:</b> The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with \renewcommand.
\IndexPageSeparator Default: “, ”	<b>\IndexPageSeparator:</b> Index page list separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexpagesep.
\IndexRangeSeparator Default: “--”	<b>\IndexRangeSeparator:</b> Index page range separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexrangesep.

**Placed before \begin{document}, or before any sectioning command which causes a file break:**

\CSSFilename Default: lwarp.css	<b>\CSSFilename:</b> $\{\langle filename.css \rangle\}$ Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.
------------------------------------	--

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed L<sup>A</sup>T<sub>E</sub>X output. lwarp\_sagebrush.css is a semi-fancy colored style as shown in this tutorial. Change it to lwarp\_formal.css for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pagess of the website.

\MathJaxFilename Default: lwarp_mathjax.txt	<b>\MathJaxFilename:</b> $\{\langle filename \rangle\}$ Sets the MATHJAX script file to use for the following files. May be changed before each each sectioning command which would cause a file split.
--	---

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

\HTMLLanguage Default: en-US	<b>\HTMLLanguage:</b> $\{\langle langauge \rangle\}$ The HTML file’s HTML lang meta tag. Defaults to en-US.
---------------------------------	---

\HTMLTitle Default: \thetitle	<b>\HTMLTitle:</b> $\{\langle title \rangle\}$ Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.
----------------------------------	---

\HTMLTitleBeforeSection Default: \HTMLTitleBeforeSection	<b>\HTMLTitleBeforeSection:</b> Sets subpage <title> tags to show the website title followed by the section name.
---	---

\HTMLTitleAfterSection	<b>\HTMLTitleAfterSection:</b> Sets subpage <title> tags to show the section name followed by the website title.
------------------------	--


custom <title>

To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	<b>\HTMLAuthor:</b> $\{\langle author \rangle\}$ The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the <code>titling</code> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLDescription:</b> $\{\langle description \rangle\}$ Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLPageTop</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLPageTop:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code>&lt;empty&gt;</code>	<b>\HTMLPageBottom:</b> $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	<b>\LinkHome:</b> Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	<b>\LinkPrevious:</b> Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	<b>\LinkNext:</b> Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

**Placed in the home page before the first sectioning command which causes a file break:**

<code>\tableofcontents</code>  <b>TOC on the homepage!</b>	<b>\tableofcontents:</b> Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.  Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
--	--

**Placed in the document wherever necessary:**

<code>\ImageAltText</code> Default: <code>image</code>	<b>\ImageAltText:</b> Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML alt tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "image", and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following <code>\includegraphics</code> and other images.
<code>\ThisAltText</code>	<b>\ThisAltText:</b> $\{\langle text \rangle\}$ <code>\ThisAltText</code> can be used to assign an HTML alt text attribute to the next image generated by a <code>lateximage</code> , <code>picture</code> , <code>tikzpicture</code> , or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.



`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`

Default: `math image`

**`\MathImageAltText`:** Redefine with `\renewcommand`. When creating an svg math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following svg math images.

`\PackageDiagramAltText`

Default: `diagram`

**`\PackageDiagramAltText`:** Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`

Default: `(`

`\AltTextClose`

Default: `)`

**`\AltTextOpen`:** Redefine with `\renewcommand`.

**`\AltTextClose`:** Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumntype`

**`\HTMLnewcolumntype`:** `\newcolumntype` may not always work with `lwarp` for HTML output, since it often involves `TEX` boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumntype` in addition.

Env `warpprint`

**`warpprint`:** An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



*Do not place anything else on the same line as `\end{warpprint}`. Also do not nest `warpprint` inside itself.*

Env `warpHTML`

**`warpHTML`:** An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



*Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.*

`\warpprintonly`

**`\warpprintonly`:** `{<contents>}` A macro version of the `warpprint` environ-

ment.

`\warpHTMLonly`

`\warpHTMLonly: {<contents>}` A macro version of the `warpHTML` environment.

### 7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

#### Numbered HTML nodes:

Example: Homepage `index.html`, and `node-1`, `node-2`.<sup>13</sup>

---

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

---

#### Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

---

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

---

#### Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

---

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

---

## 7.7 Customizing the css

`\CSSFilename`

Default: `lwarp.css`

`{<filename>}`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

<sup>13</sup>See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...

```

The styles provided by `lwarp` include:


**lwarp.css:** A default style if `\CSSFilename` is not used. This style is comparable to a plain  $\LaTeX$  document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

**lwarp\_formal.css:** A formal style with a serif fonts and a traditional look.

**lwarp\_sagebrush.css:** A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

**Custom css** A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

```

File lwarp.css
File project.css
File sample_project.css

-----
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */
-----

```

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom css.

## 7.8 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

Env BlockClass

$$[\langle style \rangle] \{ \langle class \rangle \}$$

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the BlockClass environment. The result is placed inside a `<div>`. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass

$$(\langle wp\ css\ style \rangle) [\langle web\ css\ style \rangle] \{ \langle css\ class \rangle \} \{ \langle text \rangle \}$$

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the \InlineClass macro. The result is placed inside a `<span>`. \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside warpHTML or \warpHTMLonly.

## 7.9 Selecting the operating system

Prog Unix

Prog Mac OS

Prog Linux

Prog MS-Windows

Prog Windows

Opt OSWindows

lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.

If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.

When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.

## 7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L<sup>A</sup>T<sub>E</sub>X print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L<sup>A</sup>T<sub>E</sub>X and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which lwarp does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.


Env warpHTML

Anything which is to be done only for HTML5 output is surrounded by a warpHTML environment:

---

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

---

 `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself. `warpMathJax` may be used inside `warpHTML`.


 **nesting**

Env `warpprint` Anything which is to be done only for print output is surrounded by a `warpprint` environment:

---

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

---

 `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.


 **nesting**

Env `warpall` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

---

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

---

 `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest `warpall` inside itself.

 **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` `{\actions}`

Performs the given actions only when print output is being generated.

`\warpHTMLonly` `{\actions}`

Performs the given actions only when HTML output is being generated.

Env `warpMathJax` Anything which is to be done only while using HTML output with MATHJAXIS surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line. Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warpHTML`.

 `\end{warpMathJax}`  
 **nesting**

Env `warpsvg` Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a `warpsvg` environment. `\end{warpsvg}` must appear on its own line. Do not nest `warpsvg` inside itself. `warpsvg` may be used inside `warpHTML`.

 `\end{warpsvg}`  
 **nesting**

`\LWR@formatted` To define macros or environments which behave differently depending on print or HTML output, see section 36.

## 7.11 Commands to be placed into the `warpprint` environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent \parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

## 7.12 Title page



In the preamble, place an additional block of code to set the following:

---

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

---

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 69.8.

<code>\maketitle</code>	Use <code>\maketitle</code> just after the <code>\begin{document}</code> , as this will establish the title of the homepage. Optionally, use a <code>titlepage</code> environment instead.
Env <code>titlepage</code>	The <code>titlepage</code> environment may be used to hold a custom title page. The <code>titlepage</code> will be set in a <code>&lt;div&gt;</code> class <code>titlepage</code> , and <code>\printtitle</code> , etc. may be used inside this environment.
Env <code>titlingpage</code>	Another form of custom title page, where <code>\maketitle</code> is allowed, and additional information may be included as well.
<code>\title</code>	<code>{&lt;title&gt;}</code>
 <b>HTML corrupted</b>  <b>newlines</b>	Avoid newlines in the <code>\title</code> ; these will interfere with the file break and CSS detection. Use a <code>\subtitle</code> command instead (section 69.8). The title will appear in the document <code>\maketitle</code> as a heading <code>&lt;h1&gt;</code> . The HTML meta title tag will also have this title, unless <code>\HTMLTitle</code> is used to set the meta title to something else instead.
<code>\author</code>	<code>{&lt;author&gt;}</code>
	In <code>\author</code> , <code>\protect</code> may be needed before some formatting commands. In HTML, the author will appear in a <code>&lt;div&gt;</code> of class <code>author</code> in the <code>\maketitle</code> . If the <code>titling</code> package is used, the author will also appear in a HTML meta tag, but <code>\HTMLAuthor</code> may be necessary to create a plain list of names if <code>\author</code> had affiliations added. <code>\affiliation</code> is a new addition to <code>lwarp</code> .
<code>\date</code>	<code>{&lt;date&gt;}</code>

`\date` works as expected. In HTML, this will appear in a `<div>` class titled `date`.

`\thanks` `{\text}`

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

### 7.13 HTML page meta descriptions

`\HTMLDescription` `{\text}`

Default: (none)

#### limitations

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (").

#### placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

#### disabling

To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

### 7.14 HTML homepage meta title

`\HTMLTitle` `{\text}`

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

### 7.15 HTML page meta author

`\HTMLAuthor` `{\text}`

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

## 8 Special cases and limitations

Some commonly-used L<sup>A</sup>T<sub>E</sub>X expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?


---

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

---

### 8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with lwarp, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

**page counter:** Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

**Custom math environment macros:** Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

**Custom macros in section, figure, table names:** Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

#### 8.1.1 Invalid HTML


Additionally, some objects are valid L<sup>A</sup>T<sub>E</sub>X, but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. lwarp




will create the table, and the browser may support it, but the result is technically invalid.

## 8.2 Formatting

### 8.2.1 Text formatting

 **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.


**verbatim** The various verbatim-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

### 8.2.2 Small caps

Bool `FixSmallCaps`

Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

 **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set true.

### 8.2.3 Horizontal and vertical space and rules

`\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (`U+2009`), and a `\fill` is converted to a `\quad`.

`\vspace` `\vspace` is ignored for HTML.

`\,` `~` and `\,` are converted to HTML entities.

`\kern` `\hskip` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `pdftotext`, and thus usually appear as a single space.

`\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently selected text color.


`\hrule` `\vrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.

`\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it

is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

### 8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
. . .
```


### 8.2.5 Accents

Native  $\LaTeX$  accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $X\TeX$  and  $\text{Lua}\TeX$ . If using accents in section names which will become file names, it is recommended to use the  $\LaTeX$  accents such as `\`` and `\v` instead of Unicode accents. The  $\LaTeX$  accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

### 8.2.6 textcomp package

Pkg `textcomp`

Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the `css` try referencing fonts which are more complete, but expect to see gaps in coverage.

### 8.2.7 Superscripts and other non-math uses of math mode

Use `\textsuperscript{x}` instead of  $\text{\$}^{\text{x}}\text{\$}$

### 8.2.8 Empty `\item` followed by a new line of text or a nested list:

[lists](#) Use a trailing backslash: `\item[label] \`

### 8.2.9 Filenames and URLs in lists or footnotes

[filename underscore](#) Escape underscores in the filenames:

```
\item[\href{file\_name.pdf}{text}]
```


### 8.2.10 relsize package

Pkg relsize

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

## 8.3 Boxes and minipages

### 8.3.1 Marginpars

`\marginpar`


`[\left] \{right\}` `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock`

`[\left] \{right\}` To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.


### 8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.


 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

### 8.3.3 Minipages

 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

**placement** `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

**side-by-side** Side-by-side `minipages` may be separated by `\quad`, `\qqquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for `minipages` inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, `minipages`, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

⚠ **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.

⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell lwarp to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell lwarp to ignore the specified widths.

`\UseMinipageWidths`  
`\IgnoreMinipageWidths`

⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

### 8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qqquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

### 8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `<span>` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a `<span>`. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

`\fbox`  
`\fboxBlock`  
Env `fminipage`

For a framed object, options include:

**To remove the frame in HTML output:** Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.

For inline text:

**To frame the contents inline with some formatting losses in HTML:** This is the default action of `\fbox` when enclosing a minipage. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `<span>` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

For inline minipage and lists:

**To frame the contents on their own line with improved formatting in HTML:** A new command `\fboxBlock` is included, intended to be a direct replacement

for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L<sup>A</sup>T<sub>E</sub>X code, the result in HTML is problematic since a table is a `<div>` not a `<span>`, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`,  
minipages, and lists:

**To create a framed minipage in both print and HTML:** A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 89 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

**To create colored frames and boxes:** See section 671 for `xcolor`’s `\colorbox` and `\fcolorbox`, and `lwarp`’s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment  
tab character &

**To frame tables or verbatim environments:** Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

**To frame equations:** See section 259 for the `fancybox` package.

**For fancy framed minipages:** See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

**Custom environments:** Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

---

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

---

### 8.3.6 fancybox package

Pkg `fancybox`

framed equation example

`fancybox`’s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`’s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the HTML `alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```


**framing alternatives** `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

 **framed verbatim** `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

**framed \VerbBox** `fancybox`'s `\VerbBox` may be used inside `\fbox`.

**indented alignment** `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

### 8.3.7 mdframed package

Pkg mdframed

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

### 8.3.8 tcolorbox package

Pkg `tcolorbox`


`tcolorbox` is emulated for `HTML` and `MATHJAX`, and supported as-is inside a `lateximage` or `SVG math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular `math` inside it. `\tcboxmath` and `\tcbhighmath` are supported in `SVG math`, and emulated in `MATHJAX`.
- Fitting features: `\tcboxfit` becomes `\tcbox` in `HTML`.
- Footnote numbering does not match the printed output.
- `MATHJAX` emulation is provided for common macros.

 **math**

 **footnotes**

 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

## 8.4 Section names

If using named `HTML` files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

`\FilenameSimplify`


```
{<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:


```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```


The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

`\FilenameNullify`     `{\<macros>}`

 **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.


```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```


 **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional TOC caption entry parameter for formatting. Remember to `\protect` L<sup>A</sup>T<sub>E</sub>X commands which appear in section names and TOC captions.

 **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```


## 8.5 Cross-references

 **label characters** labels Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French).

 **empty link** \nameref `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.



### 8.5.1 Page references

 **L<sup>A</sup>T<sub>E</sub>X page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.
```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 502.

### 8.5.2 `cleveref` and `varioref` packages

Pkg `cleveref`

Pkg `varioref`


`cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

 **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 733 to redefine the message which is printed for page number references.


 **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `Lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

### 8.5.3 Hyperlinks, `hyperref`, and `url`


Pkg `hyperref`

Pkg `url`

`lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

 **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

 **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

### 8.5.4 Footnotes, endnotes, and page notes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
. . .
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```


**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

**fancybox, fancyvrb**

 **\VerbatimFootnotes** If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

 **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

pfnote  
△ pfnote numbers While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

bigfoot, manyfoot Verbatim footnotes are not yet supported.

△ verbatim If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF $\LaTeX$ . With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X $\LaTeX$  or Lua $\LaTeX$  instead of PDF $\LaTeX$ .

### 8.5.5 `xr`, `xr-hyper`, and `xcite` packages

See section 5.17.

## 8.6 Front and back matter

### 8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

### 8.6.2 Starred chapters and sections

HTML page and TOC The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

lwarp provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage`

To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. lwarp will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

⚠ inaccessible HTML page

`\ForceHTMLTOC`

To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

### 8.6.3 abstract package

Pkg abstract

⚠ missing TOC

If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

### 8.6.4 titling and authblk

Pkg titling

Pkg authblk

package support

⚠ load order  
`\published` and `\subtitle`

lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

### 8.6.5 tocloft package

Opt [tocloft] titles

Pkg tocloft


Pkg tocloft

⚠ tocloft & other packages

If using `tocloft` with `tocbibind`, `anonchp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.


### 8.6.6 appendix package

Pkg appendix      During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

 **incorrect TOC link**

### 8.6.7 pagenote package

Pkg pagenote      `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

### 8.6.8 endnotes package


Pkg endnotes      To place the endnotes in the TOC, use:

[table of contents](#)

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```


[HTML page](#) To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

 **\endnotemark numbering** If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

### 8.6.9 BibTeX

`\etalchar`      Displays a superscript “+” to indicate “and others”.

 **Modify \*.bib** When enough authors are cited for a source, `BIBTEX` may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper `\prevdepth`” error. At present, `lwarp` requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the `.bib` file the following:


```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}}
```

### 8.6.10 xcite package

See section 5.17.

### 8.6.11 gloss package

Pkg gloss      To process the HTML glossary:

 **compiling**

```
bibtex <projectname>_html.gls
```

### 8.6.12 glossaries package

Pkg glossaries

[processing glossaries](#)

Opt GlossaryCmd

Default: `makeglossaries`

Opt [lwarpmk] `printglossary`

Opt [lwarpmk] `htmlglossary`

*lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's *makeglossaries* program.

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ ***makeglossaries* not found**

In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

[xindy language](#)

To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

[placement and toc options](#)

The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

#### Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection= nolabel]{glossaries}
...
\printglossaries
```

#### Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

#### Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ ***glossary style***

The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ ***number list***

The page number list in the printed form would become `\namer{efs}` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

[print/HTML versions](#)

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

### 8.6.13 nomencl package

Pkg nomencl

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o
<project>_html.nls
```

### 8.6.14 Indexing overview

There are many ways to process indexes for a  $\LaTeX$  document, including native  $\LaTeX$  capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

- [manual processing](#) The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, \*.idx and \*.ind files will be accompanied by \*\_html.idx and \*\_html.ind files.
- [custom index style](#) If using a custom indexing style file, see sections 8.6.20 to 8.6.22.
- [link appearance](#) To control how the index links appear in the HTML output, see the IndexRef option in section 7.5, page 106.
- [source code](#) See section 79 for *lwarp*'s core index and glossary code, section 340 for index, section 571 for splitidx, section 338 for imakeidx, section 625 for tocbibind, and section 692.17 for memoir's indexing patches.

### 8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

- [lwarpmk processing](#) The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

Prog makeindex

#### For a single index using *makeindex*:

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.ist style file. When creating the HTML index, “\_html” is automatically appended to each of the names.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.20.

Prog xindy

#### For a single index using *xindy*:

```
\usepackage[
  xindy,
  xindyLanguage=english,
  xindyCodepage=utf8,
  latexmk
]{lwarp}
<optional>
<optional>
<optional>
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

Prog xindex

#### For a single index using *xindex*:

```
\usepackage[
  xindex,
  latexmk
]{lwarp}
<optional>
```

The usual `.idx` and `.ind` files will be used.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

Pkg gindex

#### For a single index using *gindex*:

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp}
<optional>
```

The usual `.idx` and `.ind` files will be used.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagesep` and `\indexrangesep` settings.



### 8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

#### For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions `.sist` and `.sind`)

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
...
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

When creating the HTML index, “\_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

### 8.6.17 Indexing with splitidx

Prog splitidx

lwarp is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

⚠ \thepage When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer

to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 692.17 in the `lwarp-patch-memoir` package for the `\@@wrspindexhyp` macro as an example.

#### For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “\_html” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

#### For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M
    lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “\_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

### 8.6.18 Indexing with imakeidx

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s **lwarpmk printindex** and **lwarpmk htmlindex** commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

#### For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

*imakeidx* will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

#### For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```

\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]

```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

*imakeidx* will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

*latexmk* may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

### For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarp.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```

\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]

```

⚠ enable shell escape

For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

*imakeidx* will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

**For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:**

lwarp's options are used, and are passed to *latexmk*.

```

\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

*latexmk* will create the indexes automatically when **lwarpmk print** and **lwarpmk html** are executed.

**For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:**

*lwarpmk* must be told how to create the indexes:

```

\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

**⚠ WINDOWS**

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For multiple indexes using *xindex* and *imakeidx*, using shell escape:**

*xindex*, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```

\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]

```

⚠ enable shell escape

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

*xindex* will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

### 8.6.19 Indexes with memoir

**For a single index with memoir and *makeindex*:**

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex

```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

**For multiple indexes with memoir and *makeindex*, using *latexmk*:**

*lwarp*'s options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

*lwarpmk* will use *latexmk* to create the indexes automatically when the user executes *lwarpmk print* and *lwarpmk html*.

**For multiple indexes with memoir and *makeindex*, without latexmk:**

*lwarpmk* must be told how to create the indexes:

```

\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

**⚠ WINDOWS**

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

**For a single index with memoir and *xindy*:**

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
. . .
\xindyindex
\makeindex

```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

*lwarpmk* will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

**For multiple indexes with memoir and *xindy*, using latexmk:**

*lwarp*'s options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

*lwarpmk* will use *latexmk* to create the indexes automatically.

**For multiple indexes with memoir and *xindy*, without latexmk:**

*lwarpmk* must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

**⚠ WINDOWS**

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name\_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

**8.6.20 Using a custom *makeindex* style file**

Prog makeindex  
File lwarp.ist

When using *makeindex*, *lwarpmk* uses the file *lwarp.ist* to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *makeindex* style file:



1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt `makeindexStyle`

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

### 8.6.21 Using a custom *xindy* style file

Prog `xindy`

File `lwarp.xdy`

When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt xindyStyle

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

### 8.6.22 Using a custom *xindex* style file

Prog xindex

To use a custom *xindex* style file:

 filename

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.
3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt xindexConfig


4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```


Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

### 8.6.23 Additional indexing limitations

-  **xindy with hyperref** *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

-  **empty index** If an HTML index is empty, it may be necessary to add the following before *lwarp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
. . .
\usepackage{lwarp}
```

- makeindex custom display styles** When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
. . .
A sentence.\index{key|notesstyle}
```

- xindy custom display styles** For custom styles with *xindy*, see *lwarp.xdy* for `\textbf` and `\textit` as examples.

### 8.6.24 Index positions, toc, tocbibind

- placement and toc options** An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx`

#### Inline, with a manual toc entry:

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg `makeidx`

#### On its own HTML page, with a manual toc entry:

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind`

#### Inline, with an automatic toc entry:

The `tocbibind` package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg tocbibind

**On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

Opt [tocbibind] numindex

**numbered index section**

Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

Pkg tocloft

**tocloft & other packages**

If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

## 8.7 Math

### 8.7.1 Math in section names

**math in section names**

If using named HTML files, in section names use paren math  $\(x+y\)$  instead of dollar math  $\$x+y\$$ . (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the hyperref package:

```
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

### 8.7.2 Math in custom environments

**math in environments**

To create an environment which places its contents inside math, instead of:

```
\newenvironment{mymathenv}{ \ ( starting math ){ending math \ } }
```

use:

```

\NewDocumentEnvironment{mymathenv}{b}
{
  \inlinemathother
  \ ( starting math #1 ending math \ )
  \inlinemathnormal
}
{}

```

or:

```

\usepackage{environ}
\NewEnviron{mymathenv}{
  \inlinemathother
  \(\ starting math \BODY ending math \)
  \inlinemathnormal
}

```

For display math, use `\[`, `\]`, `\displaymathother`, and `\displaymathnormal`.

### 8.7.3 Rendering tradeoffs

**Math rendering** Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

**SVG files** Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

**SVG inline** The SVG images are currently stored separately, but they could be encoded inline directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

**PNG files** Others L<sup>A</sup>T<sub>E</sub>X-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

**MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

### 8.7.4 SVG option

**SVG math option** For SVG math, math is rendered as usual by L<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>14</sup>, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L<sup>A</sup>T<sub>E</sub>X with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML `alt` attribute carries the L<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>X math expression into other documents.

**SVG image font size** For the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

<sup>14</sup>See section 677 regarding fonts and fractions.

```
\newcommand*{\LateximageFontScale}{.75}
```

**svg math copy/paste** For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the L<sup>A</sup>T<sub>E</sub>X code for the math expression. For  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred  $\mathcal{A}\mathcal{M}\mathcal{S}$  environment, although the `\tag` macro will still appear inside the L<sup>A</sup>T<sub>E</sub>X math expression.

⚠ **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

⚠ **svg math in T<sub>E</sub>X boxes** SVG math does not work inside T<sub>E</sub>X boxes, since a `\newpage` is required before and after each image.

### 8.7.5 MATHJAX option

**MATHJAX math option** The MATHJAX ([mathjax.org](http://mathjax.org)) L<sup>A</sup>T<sub>E</sub>X-math to HTML converter may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

1. As regular L<sup>A</sup>T<sub>E</sub>X PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L<sup>A</sup>T<sub>E</sub>X, and
2. As detokenized printed L<sup>A</sup>T<sub>E</sub>X commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L<sup>A</sup>T<sub>E</sub>X values, and the MATHJAX equation numbering system is ignored in favor of the L<sup>A</sup>T<sub>E</sub>X internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

### ⚠ fonts 8.7.6 MATHJAX rendering options

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

**Math Settings** → **Math Renderer** → **SVG**

Wait a moment for the math to rerender.


### 8.7.7 Customizing MATHJAX

**equation numbering** lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```

\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}

```

 **subequation** The `amsmath` subequations environment is supported, but only with `\alpha` subequation numbering.


**global customizations** MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```

\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}

```

 **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or `svg` math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

**siunitx** When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}

```

**advanced control** For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 399, [mathtools](#).

**local customizations** For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\newcommand{\macroname}{. . .} \)
\(\newcommand{\anothername}{. . .} \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar`

For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar`

For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

### 8.7.8 MATHJAX limitations

#### MATHJAX limitations

Limitations when using MATHJAX include:

Prog MathJax



`\multicolumn`, `multirow`

- MATHJAX does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a `Tikz` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.15.

`physics`

- For `physics`, see [physics package](#), section 8.7.17.

`tabbing`

- A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. Lwarp supports this extension.



Unicode

- If using DVI  $\LaTeX$  or PDF  $\LaTeX$ , unicode input may not appear correctly in MATHJAX. Either use  $\XeLaTeX$  or  $\LuaLaTeX$ , or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```



other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these



macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

### 8.7.9 Catcode changes

[preamble macros with math](#)

The math shift character  $\$$  is not set for HTML output until after the preamble. Macros defined in the preamble which contain  $\$$  must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of  $\$$ :

```
\StartDefiningMath
\newcommand{. . . }
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of  $\$$ , in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using  $\$$ , it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

### 8.7.10 Complicated inline math objects

`\inlinemathnormal`  
`\inlinemathother`

[changing contents](#)  
[complicated alt tag](#)

[MATHJAX limitations](#)

An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as  $x+1$ , so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells lwarp to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 44.

### 8.7.11 Complicated display math objects

`\displaymathnormal`


By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother`

[MATHJAX unsupported](#)  
[complicated alt tag](#)

When selecting `\displaymathother`, it is assumed that the contents are more complicated than "pure" math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

### 8.7.12 Theorems


 **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.<sup>15</sup> For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

### 8.7.13 ntheorem package

Pkg `ntheorem` This conversion is not total. Font control is via CSS, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.


 **Font control**


 **Equation numbering** `ntheorem` has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

### 8.7.14 mathtools package

Pkg `mathtools` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

 **equation numbering**

 **italic correction** `mathic` is not emulated for HTML.

 **MATHJAX** If using `MATHJAX`:

- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```

- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

<sup>15</sup>`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

### 8.7.15 siunitx package

Pkg siunitx

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

 **drop-exponent**

 **table-auto-round**

`table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the SVG image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

`\DeclareSIUnit`

```
{\langle name \rangle} {\langle definition \rangle}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\langle text \rangle_m}_y}}
```

`\HTMLDeclareSIUnit`

```
{\langle name \rangle} {\langle definition \rangle}
```

 **v3 only!**

Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX boxes` or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\langle text \rangle_m \textsubscript{\langle text \rangle_it \langle y \rangle}}
```

It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\langle text \rangle_m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

##### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

##### ⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

##### custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

##### ⚠ unit spacing

- Units work better using `~` between units instead of using periods.

##### ⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

##### ⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

#### 8.7.16 units and nicefrac packages

Pkg units  
Pkg nicefrac

`units` and `nicefrac` work with `lwarp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

#### 8.7.17 physics package

Pkg physics

`physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

## 8.8 Graphics

Pkg graphics  
Pkg graphicx

### file extensions

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase

### ⚠ case sensitive

Table 9: `\includegraphics` and file names

Print image file	HTML image file	Command to use
image.pdf <sup>a</sup>	image.svg <sup>a</sup>	<code>\includegraphics{image}</code>
image.eps <sup>a</sup>	image.svg <sup>a</sup>	<code>\includegraphics{image}</code>
image.jpg	— <sup>b</sup>	<code>\includegraphics{image}</code>
image.png	— <sup>b</sup>	<code>\includegraphics{image}</code>
image.JPG	— <sup>b</sup>	<code>\includegraphics{image.JPG}</code> <sup>c</sup>
image.PNG	— <sup>b</sup>	<code>\includegraphics{image.PNG}</code> <sup>c</sup>
image.jpg	image.gif	<code>\includegraphics{image}</code>

<sup>a</sup>: Must be a lowercase file extension.

<sup>b</sup>: The same file is used for print and HTML.

<sup>c</sup>: The uppercase extension must be specified.

extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

#### `\includegraphics` file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog `pdftocairo`

#### PDF to SVG

To convert a PDF image to SVG, use the utility `pdftocairo`:

```
Enter ⇒ pdftocairo -svg filename.pdf
```

Prog `lwarpmk pdftosvg`

For a large number of images, use `lwarpmk`:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

Prog `lwarpmk epstopdf`

For EPS images converted to PDF using the package `epstopdf`, use

Prog `epstopdf`

#### epstopdf package

```
Enter ⇒ lwarpmk pdftosvg *.PDF
```

to convert to SVG images.

**DVI L<sup>A</sup>T<sub>E</sub>X** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

**PNG and JPG** For PNG or JPG while using *pdf<sub>l</sub>atex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

#### duplicate files

⚠ image not displayed

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ graphics vs. graphicx

If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ viewport

viewports are not supported by `lwarp`—the entire image will be shown.

#### units

For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

#### options

`\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

#### HTML class

With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

#### HTML alt tags

Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ scale

Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

#### \rotatebox


`\rotatebox` accepts the optional `origin` key.

⚠ browser support

`\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace

which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

### 8.8.1 tikz package


Pkg tikz  **displaymath and matrices**

If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

### 8.8.2 grffile package

Pkg grffile  **matching PDF and SVG**

`grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

### 8.8.3 color package

Pkg color

`color` is superseded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

### 8.8.4 xcolor package

Pkg xcolor **\colorboxBlock and \fcolorboxBlock**

`\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.

**background: none** `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.


**colored text and boxes** `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

**\color and \pagecolor** `\color` and `\pagecolor` are ignored. Use CSS or `\textcolor` where possible.

### 8.8.5 epstopdf package

Pkg epstopdf

Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses

 **convert to .svg** the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

### 8.8.6 pstricks package

Pkg pstricks

All pstricks content should be contained inside a pspicture environment.

 **use pspicture**

### 8.8.7 pdftricks package

Pkg pdftricks

The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

 **convert image files**


Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

### 8.8.8 psfrag package

Pkg psfrag

The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.


 **use psfrags**

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

### 8.8.9 pstool package

Pkg pstool

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.



### 8.8.10 asymptote package

Pkg asymptote

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

### 8.8.11 overpic package

Pkg overpic

 scaling

The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

### 8.8.12 Multimedia packages

Pkg multimedia

Pkg movie15

Pkg media9

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.


`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

## 8.9 Tabbing

The tabbing environment works, except that SVG math and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single SVG image.

## 8.10 Tabular

### 8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.


#### Defining macros and environments:

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.


```
\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars
```

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

 **Misplaced alignment tab character &**

 **floatrow**

 **tabular inside another environment**

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

#### For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

#### Cell contents:

##### ⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

#### Column specifiers:

##### ⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

##### @ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

##### \multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

##### ⚠ \newcolumn type

- If `\newcolumn type` does not work for `HTML`, add a simplified column type using `\HTMLnewcolumn type`.

## font and alignment

- **lwarp** detects each of the following, and sets HTML CSS appropriately:
  - >{\centering\arraybackslash}
  - >{\raggedright\arraybackslash}
  - >{\raggedleft\arraybackslash}
  - >{\itshape}
  - >{\bfseries}
  - >{\bfseries\itshape}
 These may be used with `\newcolumntype`, such as:
 

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

**Rules:**

## vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

## width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

## combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:
 

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change
 

```
This & That \endhead
```

 to
 

```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

**Other:**

## longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

## ⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ tabular inside a `<span>`

- In  $\LaTeX$ , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

### 8.10.2 multirow package

`vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

`multirow cells` • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

`colored cells` • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 429.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ `skipped cells` As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ `MathJax` • `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

### 8.10.3 longtable package

Pkg `longtable`

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}[column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ ... ] \endhead % or \endfirsthead
[ ... ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

#### 8.10.4 threeparttablex package

Pkg `threeparttablex`

`threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpprintonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

#### 8.10.5 supertabular and xtab packages

Pkg `supertabular`

For `\tablefirsthead`, etc., enclose them as follows:

Pkg `xtab`

⚠ **Misplaced alignment tab character &**

```
\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

### 8.10.6 colortbl package

Pkg colortbl

⚠ row/cell color

Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

colortbl ignores the overhang arguments.

### 8.10.7 ctable package

⚠ Misplaced alignment  
tab character &

Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

### 8.10.8 bigdelim package

Pkg bigdelim

⚠ use `\mrowcell`

`\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

## 8.11 Floats

### 8.11.1 Float contents alignment

⚠ figure & table  
alignment

`\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

### 8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float

Pkg trivfloat

Pkg algorithmicx

⚠ package conflicts

If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section [636.1](#).

### 8.11.3 caption and subcaption packages

Pkg caption  
Pkg subcaption

Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:


```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```


 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```


Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.


### 8.11.4 subfig package

Pkg subfig

 **table numbering** To have correct sub table numbers:


```
\usepackage{caption}
\captionsetup[table]{position=top}
```

 **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

 **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

### 8.11.5 floatrow package

Pkg floatrow

 **Misplaced alignment tab character & subfig package**

Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.



⚠ `\FBwidth, \FBheight`

The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

### 8.11.6 keyfloat package

Pkg `keyfloat`

⚠ `keywrap`

If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

## 8.12 KOMA-SCRIPT classes

Cls `komascript`

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

## 8.13 MEMOIR class

Cls `memoir`

⚠ `captions`

`lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ `options clash`

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 692.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform memoir's pagenote functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ **poems** Poem numbering is not supported.

⚠ **verbatim** The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ **glossaries** The memoir glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
\textbf{#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
\begin{minipage}{\linewidth}
\textbf{#2}
\begin{minipage}{\linewidth}
}
{\end{minipage}\end{minipage}}
```


```

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
}
{\end{fminipage}}
\end{warpHTML}

```

## 8.14 International languages

 **section and file names** If using *pdf<sub>l</sub>atex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdf<sub>l</sub>atex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *x<sub>e</sub>l<sub>a</sub>tex*, *l<sub>u</sub>a<sub>l</sub>at<sub>e</sub>x*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

Pkg `verse`  
 Cls `memoir`  
`\attrib`

When using *verse* or *memoir*, always place a `\\` after each line.

The documentation for the *verse* and *memoir* packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:


```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

Len `\vleftskip`  
 Len `\vleftmargini`  
 Len `\HTMLvleftskip`  
 Len `\HTMLleftmargini`

These lengths are used by *verse* and *memoir* to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

 **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini`

⚠ **verse margin**

or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

### 8.15.2 newclude package

Pkg newclude

⚠ **loading**

`newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

```
\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warphTML]{lwarp}
...
```

### 8.15.3 babel package

Pkg babel

⚠ **\CaptionSeparator**

When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

```
\renewcommand*{\CaptionSeparator}{:~}
```

**punctuation spaces**

Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

⚠ **customized spacing**

### 8.15.4 polyglossia package

Pkg polyglossia

`lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

### 8.15.5 todonotes and luatodonotes packages

Pkg todonotes

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

Pkg luatodonotes

### 8.15.6 fixme

Pkg fixme

External layouts (`\fxloadlayouts`) are not supported.


 external layouts

Customized layouts are overwritten by lwarp's versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see lwarp's changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 acro package


 formats Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

### 8.15.9 chemformula package

 chemformula with MATHJAX `chemformula` works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about `chemformula`.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

### 8.15.10 mhchem package

See section 410.

### 8.15.11 kotex package

Pkg kotex

See section 8.14 regarding *pdflatex* and Korean section names.

 Korean section names

## 9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T<sub>E</sub>X engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

### 9.1 Command options

Opt `PrintLatexCmd`  
Opt `HTMLLatexCmd`


The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.

`PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`. `lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The `lwarp` package options are parsed by T<sub>E</sub>X, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

---

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 10: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpsetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

---

```

\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

---

### 9.3 *latexmk*

Prog `latexmk`

If *latexmk* is used for a project, it may be easiest to continue using it.

`latexmk project.tex` would create `project.pdf` as normal.

`latexmk project_html.tex` would create `project_html.pdf`, then

`lwarpmk pdftohtml project_html.pdf` would take `project_html.pdf` and convert it to `project.html`.

Pkg `sagetex`

*latexmk* may simplify the use of packages such as `sagetex`.




## 9.4 perltex package

Pkg perltex

The lwarp package option settings to use perltex would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```

 **“impure” math** Place **perltex** math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.11.


## 9.5 pythontex package


Pkg pythontex

An example using pythontex:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use *latexmk*, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the lwarp option `latexmk` would not be used.

 **“impure” math** No attempt has yet been made to make **pythontex** robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be

 **HTML look-alike** enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

## 9.6 sympytex package

Pkg sympytex

For sympytex:

```

\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    python project.sympy \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    python project_html.sympy \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}

```

Also see the warnings for `pythontex`, above.

## 9.7 Other packages

Pkg rterface

Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.


## 9.8 *make* program

Prog make

To use `lwarp` with the *make* program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

## 9.9 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```

\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]

```

Pkg ditaa

The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe $\LaTeX$  and `ditaa`. To use Lua $\LaTeX$  instead, the locale change would have to be made inside the `ditaa` package where its calls the *ditaa* program.

## 10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

**<meta> author** To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

---

FormatEPUB

---

Bool FormatEPUB

Default: false

FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

---

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk images
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

 **search order**

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

 **encoding**

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

 **section breaks**

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarp's section headings, see table 12. For example, an article class document would break at `\section`, which is mapped to HTML heading level

<h4>, whereas a book class document would break at `\chapter`, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences** → **Conversion (Common Options)** → **Structure Detection** → **Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with `\chapters`.) The Detect chapters at field should then show

**//h:h4**    — or —    **//h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the *lwarp*-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

#### *MathJax support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for `siunitx`.

*lwarp* adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so *lwarp* requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where `siunitx` support is important.

---

## 11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

FormatWP

Bool FormatWP

Default: false

---

Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

---

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.
- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have

no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.

- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit `HTML` styles are given to:
  - `\textsc`, etc.
  - `\underline`, `soul` and `ulem` markup.
  - `center`, `flushleft`, `flushright`.
  - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
  - `fancybox` `\shadowbox`, etc.
  - The `LATEX` and `TEX` logos.

- Honors several booleans:

**WPMarkFloats:** Marks the begin and end of floats.

**WPMarkMinipages:** Marks the begin and end of minipages.

**WPMarkTOC:** Marks the location of the Table of Contents.

**WPMarkLOFT:** Marks the locations of the List of Figures/Tables.

**WPMarkMath:** Prints `LATEX` math instead of using images.

**WPTitleHeading:** Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

### WPMarkFloats

---

Adds

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

### WPMarkMinipages

---

Adds

Bool WPMarkFloats

Default: false

Bool WPMarkMinipages

Default: false

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---

#### WPMarkTOC

---

Bool WPMarkTOC

Default: true

While formatting for word processors, adds

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

---

#### WPMarkLOFT

---

Bool WPMarkLOFT

Default: false

While formatting for word processors, adds

```

=== list of figures === and/or
=== list of tables ===

```

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---

#### WPMarkMath

---

Bool WPMarkMath

[siunitx](#)

Default: false

While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

Prog TeXMaths

When using the `siunitx` package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for  $\mathcal{A}\mathcal{M}\mathcal{S}$  math environments.

---

#### WPTitleHeading

---

Bool WPTitleHeading

Default: false  
[section headings](#)

While formatting for word processors, true sets the document title to `<h1>`, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.



Table 11: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph	<span>	<h6>	<h6>	<h5>

\* For default depths when not FormatWP, see table 12 on page 201.

See table 11 on page 185.

### 11.3 Recommendations

**TOC, LOF, LOT** For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

**siunitx** For `siunitx`, remember to adjust the preamble as mentioned above.

**LO view border options** LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to `LIBREOFFICE` floats with their own captions. Floats are surrounded by a thin frame in the `LIBREOFFICE` editor, and may be marked with `WPMarkFloats`, but are not given a proper `LIBREOFFICE` object frame. Captions are given an explicit italic formatting, but not a proper `LIBREOFFICE` paragraph style.

Cross references are not actual `LIBREOFFICE` linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo `LOF` and `LOT` match the numbering of the `LATEX` and `HTML` versions.

Equation numbering is not automatic, but the equation numbers in `svg math` will match the `LATEX` and `HTML` output. `svg math` is recommended when using the `AMS` environments, which may have multiple numbered equations per object.


As of when last checked, `LIBREOFFICE` ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
  - `\textcircled`
  - `booktabs trim`
- `\hspace` and rules, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

`LIBREOFFICE` also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L<sup>A</sup>T<sub>E</sub>X output. See section 93 for an example of the picture environment.
- css classes** To create a custom HTML block or inline CSS class, see section 52.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.
-  **TeX boxes** Any TeX boxes must be undone, as `svg math` or `lateximages` require `\newpage`, which will not work in a TeX box.

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

#### To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

---

Run `./update` now, and whenever a new `lwarp-*` package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

```
Enter ⇒ which lwarpmk
```

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In `.cshrc`:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the *lwarp* documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other lwarp-packages where T<sub>E</sub>X can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 457 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

### 12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in lwarp, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

### 12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

### 12.4 Testing lwarp

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

#### compiling individual packages

For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

File `core.ins`

```
\generate{
\file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
\file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

#### compiling css and other generated files

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins -or- pdflatex core.ins`
3. `pdflatex lwarp.dtx`
4. If modifying *lwarpmk* the new version should now be active.
5. If modifying css files or other files generated by `lwarp`:
  - (a) For the document, `lwarpmk print` to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

## 12.5 Modifying *lwarpmk*

Prog `lwarpmk`  
File `lwarpmk.lua`

In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to `lwarp`:** `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** `lwarp` cannot determine which engine is being used. Supported are DVI L<sup>A</sup>T<sub>E</sub>X, PDF L<sup>A</sup>T<sub>E</sub>X, X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, and upL<sup>A</sup>T<sub>E</sub>X.

#### 13.1.2 Image generation with `lwarpmk limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Re-compile.

**`lwarpmk epstopdf *` or `lwarpmk pdftosvg *`:** Errors if filenames are not found.



### 13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

### 13.1.4 Packages

**Loaded before lwarp:** Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after lwarp:** Most packages which are modified by lwarp must be loaded after lwarp.

**Loaded never:** Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

**longtable:** lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.


**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all languages are supported by cleveref.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

**Filenames:** lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

 **HTML corrupted** **Multirow:** When \multirow or \multicolrow are used, \mrowcell or \mcolrowcell must be placed in the appropriate cells to avoid corrupted HTML output.

**(width,height) missing a comma:** \makebox and \framebox can accept a parenthesis-delimited width and height, which must be separated by a comma.

**“Load graphicx or graphics for improved svg math baselines.”:** svg math sizing and baselines are improved if either of these packages are used.

**“Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe<sub>La</sub>TeX logo can use the reversed “E”.

**“It is recommended to use [width=xx\linewidth] instead of [scale=yy]”:** Browser support of scale does not have the same effect as in L<sup>A</sup>T<sub>E</sub>X.

## 13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

△ **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

△ **dotlessj** **Dotless j (\j):** See section 7.4 regarding cmap, mmap.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section 7.6.

**Tabular problems:** See section 8.10.1.

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document’s L<sup>A</sup>T<sub>E</sub>X code is correct, before attempting to generate an HTML version.

`\end{warpHTML}`, `\end{warpprint}`, `\end{warpall}`, `\end{warpMathJax}`:

Each of these must be without any other characters on the same line.

**“Runaway argument? File ended while scanning use of \next:**

Don’t use warpHTML, warpprint, warpall, or warpMathJax inside itself.

**Options clash:** If using memoir, see section 8.13.

**“Missing \begin{document}.”:** Some packages require that their options be specified before lwarp is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

**“No room for a new \write.”:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

**“! TeX capacity exceeded, sorry [text input levels=15].”:** Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.”:** If using a filename or URL in a footnote or `\item`, escape underscores with `\_.`

△ `warpHTML`, `warpprint`,  
`warpMathJax`, `warpall`

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as  $X=1$  may be replaced with

```
\textit{X}\,=\,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**

Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `\l@<floastype>` or `\l@<sectiontype>` definition. See `lwarp`'s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `Lrbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . . \\_\_hook begindocument”:**

See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the `TEX` text, v.s. the PDF bookmark. See the `hyperref` manual.**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote ' character, instead of using the upright quote ’ character.**“Complicated objects inside math”:** Some objects, such as `Tikz`, may not compile in `lwarp`'s normal math emulation. Insert

⚠ macros in section, table, figure names

⚠ BibTeX

⚠ `polyglossia`

⚠ custom macros for environments

⚠ `\LWR@formatted`

⚠ quote character

⚠ “impure” math objects

`\displaymathother` — *or* — `\inlinemathother`  
 before the math, and then  
`\displaymathnormal` — *or* — `\inlinemathnormal`  
 when displaying “normal” math. See section 8.7.11.

**Slow compilation of math objects:** Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.11.

**Missing sections:** See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section 8.5.4.

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

**Missing / incorrect cross-references:**

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).  
`\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
```

in html becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 733 to redefine the message which is printed for page number references.

**BibTeX errors with `\eta\char`:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use  $\TeX$  or  $\LaTeX$ .

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

**Caption setup:** With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- When images are added or removed, Enter `lwarpmk limages` to refresh the `lateximage` images.

**svg images:**

⚠ adding/removing

When a math expression, `picture`, or `Tikz` environment is added or removed, the `svg` images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline `svg` math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first

Before attempting to create the `svg` image files, `lwarpmk` verifies that the `HTML` version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s `HTML` version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the `LATEX` recompile warnings.

⚠ HTML instead of images

If `HTML` appears where an `svg` image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect `svg` images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as `svg` images has the advantage of representing the math exactly as `LATEX` would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its `LATEX` source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

**Plain-looking document:**

- The document’s `css` stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFILENAME` statements point to a valid `css` file.

⚠ HTML corrupted

**Broken fragments of HTML:**

- Check the `PDF` file used to create `HTML` to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

#### Un-matched conditional compiles:

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

### 13.2.1 Debug tracing output

`\tracinglwarp`

When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

## 13.3 Compiling the `lwarp.dtx` file

**lwarp\_tutorial.tex:** Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

#### Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

#### Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

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File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude~~ ~~haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.



Table 12: Section depths and HTML headings

Section	L <sup>A</sup> T <sub>E</sub> X depth	HTML headings *
Title of the entire website		<h1>
(none)	-5	new for this package
book	-2	<div class = "book">
part	-1	<h2>
chapter	0	<h3>
section	1	<h4>
subsection	2	<h5>
subsubsection	3	<h6>
paragraph	4	<span class = "paragraph">
subparagraph	5	<span class = "subparagraph">
listitem	7	new for this package, used for list items

\* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 185.

## 16 Section depths and HTML headings

Stacks are created to track depth inside the L<sup>A</sup>T<sub>E</sub>X document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the L<sup>A</sup>T<sub>E</sub>X document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

## 17 Source code


This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**index entries** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:**  
**for PRINT output:**  
**for HTML & PRINT:** Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

Prog Lwarp

## 18 Detecting the T<sub>E</sub>X engine — *pdf<sub>l</sub>atex*, *lua<sub>l</sub>atex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>Ǝ</sub>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8   \xetexorluatextrue
9 \else
10  \ifLuaTeX
11    \xetexorluatextrue
12  \else
13    \xetexorluatexfalse
14  \fi
15 \fi

```

## 19 Early package requirements

Pkg etoolbox

Provides `\ifbool` and other functions.

```
16 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
```

Patch to fix copy of environment with a `\par`:

<https://github.com/josephwright/etoolbox/issues/35>

```
17 \long\def\etb@carsquare#1#2#3\@nil{#1#2}
```

Pkg xpatch

Patches macros with optional arguments.

```
18 \RequirePackage{xpatch}
```

Pkg ifplatform

Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
19 \RequirePackage{ifplatform}% sense op-system platform
```

Pkg letltxmacro

```
20 \RequirePackage{letltxmacro}
```

## 20 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most

of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

## 20.1 Tests of package load order

`\LWR@loadafter`  $\{\langle packagename \rangle\}$  Error if this package was loaded before `lwarp`.

```

21 \newcommand*\LWR@loadafter}[1]{%
22 \IfPackageLoadedTF{#1}
23 {
24   \PackageError{lwarp}
25     {%
26       Package #1,\MessageBreak
27       or one which uses #1,\MessageBreak
28       must be loaded after Lwarp.\MessageBreak
29       Enter 'H' for possible solutions%
30     }
31     {%
32       Move ‘‘\protect\usepackage{#1}’’ after
33       ‘‘\protect\usepackage{lwarp}’’.\MessageBreak
34       Package #1 may also be loaded by something else,\MessageBreak
35       which must also be moved after Lwarp.%
36     }
37 }
38 {\relax}
39 }

```

`\LWR@notmemoirloadafter`  $\{\langle packagename \rangle\}$  Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

40 \IfClassLoadedTF{memoir}
41 {\newcommand*\LWR@notmemoirloadafter}[1]{}
42 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter`  $\{\langle packagename \rangle\}$  Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

43 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
44
45 \IfClassLoadedTF{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
46 \IfClassLoadedTF{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
47 \IfClassLoadedTF{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
48 \IfClassLoadedTF{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}

```

```

49 \IfClassLoadedTF{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
50 \IfClassLoadedTF{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \IfClassLoadedTF{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \IfClassLoadedTF{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
53 \IfClassLoadedTF{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \IfClassLoadedTF{ltjtbok}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
55 \IfClassLoadedTF{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

`\LWR@loadbefore`  $\{\langle package name \rangle\}$  Error if this package is loaded after lwarp.

```

56 \newcommand*{\LWR@loadbefore}[1]{%
57 \IfPackageLoadedTF{#1}
58 {\relax}
59 {
60   \PackageError{lwarp}
61   {%
62     Package #1 must be loaded before lwarp.\MessageBreak
63     Enter 'H' for possible solutions%
64   }
65   {Move ‘‘\protect\usepackage{#1}’’ before ‘‘\protect\usepackage{lwarp}’’..}
66 }
67 }

```

`\LWR@checkloadbefore`  $\{\langle package name \rangle\}$

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after lwarp.

```

68 \newcommand*{\LWR@checkloadbefore}[1]{%
69   \ifdefstring{\LWR@tempone}{#1}{%
70     \LWR@loadbefore{#1}%
71   }{ }%
72 }

```

`\LWR@loadnever`  $\{\langle bad package name \rangle\} \{\langle replacement pkg names \rangle\}$

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```

73 \newcommand*{\LWR@loadnever}[2]{%
74 \PackageError{lwarp}
75 {%
76   Package #1 is not yet supported\MessageBreak
77   by lwarp's HTML conversion%
78   \ifblank{#2}{}{
79     .\MessageBreak
80     Package(s)\MessageBreak
81     \space\space#2\MessageBreak
82     may be useful instead%
83   }%
84 }
85 {%
86   Package #1 might conflict with lwarp in some way,\MessageBreak
87   or is superceded by another package.%
88   \ifblank{#2}{}{
89     \MessageBreak
90     For possible alternatives, see package(s) #2.%

```

```

91    }%
92 }
93 }

```

`\LWR@afterloadnever` {<*badpackagename*>} {<*replacementpkgnames*>}

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```

94 \newcommand*{\LWR@afterloadnever}[2]{%
95   \ifdefstring{\LWR@tempone}{#1}{%
96     \LWR@loadnever{#1}{#2}%
97   }{ }%
98 }

```

`\LWR@earlyloadnever` {<*badpackagename*>} {<*replacementpkgname*>}

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```

99 \newcommand*{\LWR@earlyloadnever}[2]{%
100   \IfPackageLoadedTF{#1}{%
101     \LWR@loadnever{#1}{#2}%
102   }{ }%
103 }

```

`\LWR@earlyclassloadnever` {<*badclassname*>} {<*replacementclassname*>}

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

104 \newcommand*{\LWR@earlyclassloadnever}[2]{%
105   \IfClassLoadedTF{#1}{%
106     \PackageError{lwarp}
107     {%
108       Class #1 is not supported\MessageBreak
109       by lwarp's HTML conversion%
110       \ifblank{#2}{ }{%
111         .\MessageBreak
112         #2 may be useful instead%
113       }%
114     }
115     {%
116       Class #1 might conflict with lwarp in some way,\MessageBreak
117       or is superceded by another class.%
118       \ifblank{#2}{ }{%
119         \MessageBreak
120         For a possible alternative, see #2.%
121       }%
122     }
123   }{\relax}%
124 }

```

## 20.2 Error for disallowed packages and classes loaded before lwarp

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```
125 \newcommand*{\LWR@checkloadnevers}{
126 \LWR@checkloadnever{ae}{cm-super, lmodern}
127 \LWR@checkloadnever{aeopl}{cm-super, lmodern}
128 \LWR@checkloadnever{aecc}{cm-super, lmodern}
129 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}
130 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}
131 \LWR@checkloadnever{bitfield}{bytefield}
```

`bxckatype` is based on CJK:

```
132 \LWR@checkloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

133 \LWR@checkloadnever{caption2}{caption}
134 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
135 \LWR@checkloadnever{colortab}{colortbl}
136 \LWR@checkloadnever{csvtools}{datatool}
137 \LWR@checkloadnever{doublespace}{setspace}
138 \LWR@checkloadnever{fancyheadings}{fancyhdr}
139 \LWR@checkloadnever{fncylab}{cleveref}
140 \LWR@checkloadnever{formula}{siunitx}
141 \LWR@checkloadnever{glossary}{glossaries}
```

`hangul` is not in TeXLive, and is not tested:

```
142 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

143 \LWR@checkloadnever{hyper}{hyperref}
144 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
145 \LWR@checkloadnever{newthm}{ntheorem}
146 \LWR@checkloadnever{pdfcprot}{microtype}
147 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}
148 \LWR@checkloadnever{rplain}{fancyhdr}
149 \LWR@checkloadnever{si}{siunitx}
150 \LWR@checkloadnever{sisyle}{siunitx}
151 \LWR@checkloadnever{slashbox}{diagbox}
152 \LWR@checkloadnever{statex}{statex2}
153 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}
154 \LWR@checkloadnever{ucs}{inputenc, inputencx}
155 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
```

The following may one day be supported by lwarp:

```
156 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
157 \LWR@checkloadnever{animate}{}
158 \LWR@checkloadnever{auto-pst-pdf}{}
159 \LWR@checkloadnever{auto-pst-pdf-lua}{}
160 \LWR@checkloadnever{algorithms}{}
161 \LWR@checkloadnever{arraycols}{}
162 \LWR@checkloadnever{bidi}{}
163 \LWR@checkloadnever{cals}{}

164 \LWR@checkloadnever{cellspace}{tbls}
```

```
165 \LWR@checkloadnever{cgloss4e}{}  
166 \LWR@checkloadnever{collcell}{}  
167 \LWR@checkloadnever{colophon}{}  
168 \LWR@checkloadnever{cooltooltips}{}  
169 \LWR@checkloadnever{covington}{}  
170 \LWR@checkloadnever{crbox}{}  
171 \LWR@checkloadnever{decision-table}{}  
172 \LWR@checkloadnever{dvgloss}{}  
173 \LWR@checkloadnever{ednotes}{}  
174 \LWR@checkloadnever{edfnotes}{}  
175 \LWR@checkloadnever{eledform}{}  
176 \LWR@checkloadnever{eledmac}{}  
177 \LWR@checkloadnever{embedfile}{}  
178 \LWR@checkloadnever{endnotes-hy}{endnotes}  
179 \LWR@checkloadnever{expex}{}  
180 \LWR@checkloadnever{fancytooltips}{}  
181 \LWR@checkloadnever{fixocgx}{}  
182 \LWR@checkloadnever{flowfram}{}  
183 \LWR@checkloadnever{gb4e}{}  
184 \LWR@checkloadnever{gmverse}{}  
185 \LWR@checkloadnever{graphbox}{}  
186 \LWR@checkloadnever{graphicxbox}{}  
187 \LWR@checkloadnever{hvfloat}{}  
188 \LWR@checkloadnever{inline-images}{}  
189 \LWR@checkloadnever{isorot}{rotating}  
190 \LWR@checkloadnever{ledmac}{}  
191 \LWR@checkloadnever{linguex}{}  
192 \LWR@checkloadnever{longdiv}{}  
193 \LWR@checkloadnever{longfigure}{}  
194 \LWR@checkloadnever{longtabu}{}  
195 \LWR@checkloadnever{mdwenv}{}  
196 \LWR@checkloadnever{mdwlist}{}  
197 \LWR@checkloadnever{mdwtab}{}  
198 \LWR@checkloadnever{navigator}{}  
199 \LWR@checkloadnever{nccpic}{}  
200 \LWR@checkloadnever{nccsect}{}  
201 \LWR@checkloadnever{newvbtm}{}  
202 \LWR@checkloadnever{ocg-p}{}  
203 \LWR@checkloadnever{ocgtools}{}  
204 \LWR@checkloadnever{ocgx}{}  
205 \LWR@checkloadnever{ocgx2}{}  
206 \LWR@checkloadnever{parrun}{}  
207 \LWR@checkloadnever{poemscol}{}  
208 \LWR@checkloadnever{poetry}{}  
209 \LWR@checkloadnever{program}{}  
210 \LWR@checkloadnever{proofread}{}  
211 \LWR@checkloadnever{pst-pdf}{}  
212 \LWR@checkloadnever{refstyle}{}  
213 \LWR@checkloadnever{robustindex}{}  
214 \LWR@checkloadnever{robustglossary}{}  
215 \LWR@checkloadnever{semioneside}{}  
216 \LWR@checkloadnever{slemph}{}  
217 \LWR@checkloadnever{snotez}{sidenotes}  
218 \LWR@checkloadnever{spacingtricks}{}  
219 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}  
220 \LWR@checkloadnever{syntax}{}  
221 \LWR@checkloadnever{tablists}{}  
222 \LWR@checkloadnever{tabto}{}  
223 \LWR@checkloadnever{tabu}{}  
224 \LWR@checkloadnever{tabularht}{}
```



```

225 \LWR@checkloadnever{tabularkv}{}
226 \LWR@checkloadnever{thumby}{}
227 \LWR@checkloadnever{titles}{}
228 \LWR@checkloadnever{typehtml}{}
229 \LWR@checkloadnever{unicode-bidi}{}
230 \LWR@checkloadnever{vcell}{}
231 \LWR@checkloadnever{xhfill}{}
232 }

```

`\LWR@checkloadnever`  $\{\langle badpackage \rangle\} \{\langle replacementpkgname \rangle\}$

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```
233 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever
```

Now check for incompatible packages which have been loaded before `lwarp`:

```
234 \LWR@checkloadnevers
```

The older `CJK` and `CJKutf8` only work with `xeCJK`:

```

235 \IfPackageLoadedTF{xeCJK}{}{
236   \LWR@checkloadnever{CJK}{ctex, xeCJK}
237   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
238 }

```

Some classes do not work with `lwarp`:

```

239 \LWR@earlyclassloadnever{beamer}{beamerarticle}
240 \LWR@earlyclassloadnever{jarticle}{ujarticle}
241 \LWR@earlyclassloadnever{jbook}{ujbook}
242 \LWR@earlyclassloadnever{jreport}{ujreport}
243 \LWR@earlyclassloadnever{tarticle}{utarticle}
244 \LWR@earlyclassloadnever{tbook}{utbook}
245 \LWR@earlyclassloadnever{treport}{utreport}
246 \LWR@earlyclassloadnever{novel}{}
247 \LWR@earlyclassloadnever{powerdot}{}

```

## 20.3 Enforcing package loading after `lwarp`

Packages which should only be loaded after `lwarp` are tested here to trip an error if they have already been loaded.

The following packages must be loaded after `lwarp`:

```

248 \LWR@loadafter{2in1}
249 \LWR@loadafter{2up}
250 \LWR@loadafter{a4}
251 \LWR@loadafter{a4wide}
252 \LWR@loadafter{a5comb}
253 \LWR@notmemoirlloadafter{abstract}

```

```
254 \LWR@loadafter{academicons}
255 \LWR@loadafter{accents}
256 \LWR@loadafter{accessibility}
257 \LWR@loadafter{accsupp}
258 \LWR@loadafter{acro}
259 \LWR@loadafter{acronym}
260 \LWR@loadafter{adjmulticol}
261 \LWR@loadafter{addlines}
262 \LWR@loadafter{afterpage}
263 \LWR@loadafter{algorithm2e}
264 \LWR@loadafter{algorithmicx}
265 \LWR@loadafter{alltt}
266 \LWR@loadafter{amscdx}
267 % \LWR@loadafter{amsmath}% may be preloaded
268 % \LWR@loadafter{amsthm}% may be preloaded
269 \LWR@loadafter{anonchp}
270 \LWR@loadafter{anysize}
271 \LWR@notmemoirloadafter{appendix}
272 \LWR@loadafter{ar}
273 \LWR@loadafter{arabicfront}
274 \LWR@notmemoirloadafter{array}
275 \LWR@loadafter{arydshln}
276 \LWR@loadafter{asymptote}
277 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
278 \LWR@loadafter{attachfile}
279 \LWR@loadafter{attachfile2}
280 \LWR@loadafter{authblk}
281 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
282 \LWR@loadafter{autobreak}
283 \LWR@loadafter{autonum}
284 \LWR@loadafter{awesomebox}
285 \LWR@loadafter{axessibility}
286 \LWR@loadafter{axodraw2}
287 \LWR@loadafter{backnaur}
288 \LWR@loadafter{backref}
289 \LWR@loadafter{balance}
290 \LWR@loadafter{bbding}
291 \LWR@loadafter{beamerarticle}
292 \LWR@loadafter{bigdelim}
293 \LWR@loadafter{bigfoot}
294 \LWR@loadafter{bigstrut}
295 \LWR@loadafter{bitpattern}
296 \LWR@loadafter{blowup}
297 \LWR@loadafter{bm}
298 \LWR@loadafter{booklet}
299 \LWR@loadafter{bookmark}
300 \LWR@notmemoirloadafter{booktabs}
301 \LWR@loadafter{bophook}
302 \LWR@loadafter{bounddvi}
303 \LWR@loadafter{boxedminipage}
304 \LWR@loadafter{boxedminipage2e}
305 \LWR@loadafter{bracket}
306 \LWR@loadafter{breakurl}
307 \LWR@loadafter{breqn}
308 \LWR@loadafter{bsheaders}
309 \LWR@loadafter{bussproofs}
310 \LWR@loadafter{bypapersize}
311 \LWR@loadafter{bytefield}
312 \LWR@loadafter{ccicons}
313 \LWR@loadafter{cancel}
```

---

314 \LWR@loadafter{canoniclayout}  
315 \LWR@loadafter{caption}  
316 \LWR@loadafter{caption2}  
317 \LWR@loadafter{caption3}  
318 \LWR@loadafter{cases}  
319 % catoptions is supported by the lwarp core  
320 % \LWR@loadafter{ccaption}% may be preloaded by memoir  
321 \LWR@loadafter{centerlastline}  
322 % \LWR@loadafter{centernot}% may be preloaded by newtx  
323 \LWR@loadafter{changebar}  
324 \LWR@loadafter{changelayout}  
325 \LWR@notmemoirloadafter{changepage}  
326 \LWR@loadafter{changes}  
327 \LWR@loadafter{chappg}  
328 \LWR@loadafter{chapterbib}  
329 \LWR@loadafter{chemfig}  
330 \LWR@loadafter{chemformula}  
331 \LWR@loadafter{chemgreek}  
332 \LWR@loadafter{chemmacros}  
333 \LWR@loadafter{chemnum}  
334 \LWR@loadafter{chkfloat}  
335 \LWR@notmemoirloadafter{chnpage}  
336 \LWR@loadafter{cite}  
337 \LWR@loadafter{citeref}  
338 \LWR@loadafter{classicthesis}  
339 \LWR@loadafter{cleveref}  
340 % cmbright may be preloaded  
341 \LWR@loadafter{cmdtrack}  
342 \LWR@loadafter{colonequals}  
343 \LWR@loadafter{color}  
344 \LWR@loadafter{colortbl}  
345 \LWR@loadafter{continue}  
346 \LWR@loadafter{copyrightbox}  
347 \LWR@notmemoirloadafter{crop}  
348 % ctex must be loaded before lwarp  
349 \LWR@loadafter{ctable}  
350 \LWR@loadafter{cuted}  
351 \LWR@loadafter{cutwin}  
352 \LWR@loadafter{dblfloatfix}  
353 \LWR@loadafter{dblfnote}  
354 \LWR@notmemoirloadafter{dcolumn}  
355 \LWR@loadafter{decimal}  
356 \LWR@loadafter{decorule}  
357 \LWR@loadafter{diagbox}  
358 \LWR@loadafter{dingbat}  
359 \LWR@loadafter{DotArrow}  
360 \LWR@loadafter{dotlessi}  
361 \LWR@loadafter{dprogress}  
362 \LWR@loadafter{draftcopy}  
363 \LWR@loadafter{draftfigure}  
364 \LWR@loadafter{draftwatermark}  
365 \LWR@loadafter{drftcite}  
366 \LWR@loadafter{easy-todo}  
367 \LWR@loadafter{ebook}  
368 \LWR@loadafter{econometrics}  
369 \LWR@loadafter{ed}  
370 \LWR@loadafter{ellipsis}  
371 \LWR@loadafter{embrac}  
372 \LWR@loadafter{emptypage}  
373 \LWR@loadafter{endfloat}

```
374 \LWR@loadafter{endheads}
375 \LWR@loadafter{endnotes}
376 \LWR@loadafter{engtlc}
377 \LWR@loadafter{enotez}
378 \LWR@notmemoirloadafter{enumerate}
379 \LWR@loadafter{enumitem}
380 \LWR@notmemoirloadafter{epigraph}
381 \LWR@loadafter{epsf}
382 \LWR@loadafter{epsfig}
383 \LWR@loadafter{epstopdf}
384 \LWR@loadafter{epstopdf-base}
385 \LWR@loadafter{eqlist}
386 \LWR@loadafter{eqparbox}
387 \LWR@loadafter{errata}
388 \LWR@loadafter{eso-pic}
389 \LWR@loadafter{esvect}
390 \LWR@loadafter{etoc}
391 \LWR@loadafter{eurosym}
392 \LWR@loadafter{everypage}
393 % \LWR@loadafter{everyshi}% now in LaTeX core
394 \LWR@loadafter{extarrows}
395 \LWR@loadafter{extramarks}
396 \LWR@loadafter{fancybox}
397 \LWR@loadafter{fancyhdr}
398 \LWR@loadafter{fancypar}
399 \LWR@loadafter{fancyref}
400 \LWR@loadafter{fancytabs}
401 \LWR@loadafter{fancyvrb}
402 \LWR@loadafter{fbox}
403 \LWR@loadafter{fewerfloatpages}
404 \LWR@loadafter{figcaps}
405 \LWR@loadafter{figsize}
406 \LWR@loadafter{fitbox}
407 \LWR@loadafter{fix2col}
408 \LWR@loadafter{fixmath}
409 \LWR@loadafter{fixme}
410 \LWR@loadafter{fixmetodonotes}
411 \LWR@loadafter{flafter}
412 \LWR@loadafter{flippdf}
413 \LWR@loadafter{float}
414 \LWR@loadafter{floatflt}
415 \LWR@loadafter{floatpag}
416 \LWR@loadafter{floatrow}
417 \LWR@loadafter{fltrace}
418 \LWR@loadafter{flushend}
419 \LWR@loadafter{fnbreak}
420 \LWR@loadafter{fncychap}
421 \LWR@loadafter{fnlineno}
422 \LWR@loadafter{fnpara}
423 \LWR@loadafter{fnpos}
424 \LWR@loadafter{fontawesome}
425 \LWR@loadafter{fontawesome5}
426 % fontenc must be loaded before lwarp
427 % fontspec must be loaded before lwarp
428 \LWR@loadafter{footmisc}
429 \LWR@loadafter{footnote}
430 \LWR@loadafter{footnotebackref}
431 \LWR@loadafter{footnotehyper}
432 \LWR@loadafter{footnoterange}
433 \LWR@loadafter{footnpag}
```

```
434 \LWR@loadafter{foreign}
435 \LWR@loadafter{forest}
436 \LWR@loadafter{fouridx}
437 % fourier may be loaded before lwarp
438 \LWR@loadafter{framed}
439 \LWR@loadafter{froufrou}
440 \LWR@loadafter{ftcap}
441 \LWR@loadafter{ftnright}
442 \LWR@loadafter{fullminipage}
443 \LWR@loadafter{fullpage}
444 \LWR@loadafter{fullwidth}
445 \LWR@loadafter{fvextra}
446 \LWR@loadafter{fwlw}
447 \LWR@loadafter{gensymb}
448 \LWR@loadafter{gentombow}
449 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
450 \LWR@loadafter{ghsystem}
451 \LWR@loadafter{gindex}
452 \LWR@loadafter{glossaries}
453 \LWR@loadafter{gmeometric}
454 % \LWR@loadafter{graphics}% pre-loaded by xunicode
455 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
456 \LWR@loadafter{gloss}
457 \LWR@loadafter{glossary}
458 \LWR@loadafter{grffile}
459 \LWR@loadafter{grid}
460 \LWR@loadafter{grid-system}
461 \LWR@loadafter{gridset}
462 \LWR@loadafter{hang}
463 \LWR@loadafter{hanging}
464 \LWR@loadafter{hepunits}
465 \LWR@loadafter{hhline}
466 \LWR@loadafter{hhtensor}
467 \LWR@loadafter{hypbmsec}
468 \LWR@loadafter{hypcap}
469 \LWR@loadafter{hypdestopt}
470 \LWR@loadafter{hypernat}
471 \LWR@loadafter{hyperref}
472 \LWR@loadafter{hyperxmp}
473 \LWR@loadafter{hyphenat}
474 \LWR@loadafter{idxlayout}
475 \LWR@loadafter{ifoddpages}
476 \LWR@loadafter{imakeidx}
477 \LWR@loadafter{impnatty}
478 \LWR@notmemoirloadafter{index}
479 % inputenc must be loaded before lwarp
480 % inputenx must be loaded before lwarp
481 % inputtrc may be loaded before lwarp
482 \LWR@loadafter{intopdf}
483 \LWR@loadafter{isomath}
484 \LWR@loadafter{isotope}
485 \LWR@loadafter{jurabib}
486 \LWR@loadafter{karnaugh-map}
487 \LWR@loadafter{keyfloat}
488 \LWR@loadafter{keystroke}
489 % kpfonts may be loaded before lwarp
490 % kpfonts-otf may be loaded before lwarp
491 \LWR@loadafter{layaureo}
492 \LWR@loadafter{layout}
493 \LWR@loadafter{layouts}
```

```
494 \LWR@loadafter{leading}
495 \LWR@loadafter{leftidx}
496 \LWR@loadafter{letterspace}
497 \LWR@loadafter{letrine}
498 % libertinust1math may be loaded before lwarp
499 \LWR@loadafter{lineno}
500 \LWR@loadafter{lips}
501 \LWR@loadafter{listings}
502 \LWR@loadafter{listliketab}
503 \LWR@loadafter{lltjp-siunitx}
504 \LWR@loadafter{lltjp-tascmac}
505 \LWR@loadafter{longtable}
506 \LWR@loadafter{lpic}
507 \LWR@loadafter{lscapex}
508 \LWR@loadafter{ltablex}
509 \LWR@loadafter{ltcaption}
510 \LWR@loadafter{ltxgrid}
511 \LWR@loadafter{ltxtable}
512 \LWR@loadafter{lua-check-hyphen}
513 \LWR@loadafter{lua-visual-debug}
514 \LWR@loadafter{luacolor}
515 \LWR@loadafter{luamplib}
516 \LWR@loadafter{luatodonotes}
517 \LWR@loadafter{luavlna}
518 \LWR@loadafter{lyluatex}
519 \LWR@loadafter{magaz}
520 \LWR@notmemoirloadafter{makeidx}
521 \LWR@loadafter{manyfoot}
522 \LWR@loadafter{marginfit}
523 \LWR@loadafter{marginfix}
524 \LWR@loadafter{marginnote}
525 \LWR@loadafter{marvosym}
526 % mathalpha may be loaded before lwarp
527 \LWR@loadafter{mathastext}
528 \LWR@loadafter{mathcomp}
529 \LWR@loadafter{mathdesign}
530 \LWR@loadafter{mathdots}
531 \LWR@loadafter{mathfixs}
532 \LWR@loadafter{mathpazo}
533 \LWR@loadafter{mathptmx}
534 \LWR@loadafter{mathspec}
535 \LWR@loadafter{mathtools}
536 \LWR@loadafter{mattens}
537 \LWR@loadafter{maybemath}
538 \LWR@loadafter{mcaption}
539 \LWR@loadafter{mdframed}
540 \LWR@loadafter{mdwmath}
541 \LWR@loadafter{media9}
542 \LWR@loadafter{memhfixc}
543 \LWR@loadafter{menukeys}
544 \LWR@loadafter{metalogo}
545 \LWR@loadafter{metalogoX}
546 \LWR@loadafter{mhchem}
547 \LWR@loadafter{microtype}
548 \LWR@loadafter{midfloat}
549 \LWR@loadafter{midpage}
550 \LWR@loadafter{minibox}
551 \LWR@loadafter{minitoc}
552 \LWR@loadafter{minted}
553 \LWR@loadafter{mismath}
```

```
554 \LWR@loadafter{mleftright}
555 % morefloats must be allowed early for print mode
556 \LWR@notmemoirloadafter{moreverb}
557 % morewrites must be loaded before lwarp
558 \LWR@notmemoirloadafter{movie15}
559 \LWR@notmemoirloadafter{mparhack}
560 \LWR@loadafter{multibib}
561 \LWR@loadafter{multicap}
562 %\LWR@loadafter{multicol}% loaded by ltxdoc
563 \LWR@loadafter{multicolrule}
564 \LWR@loadafter{multimedia}
565 \LWR@loadafter{multiobjective}
566 \LWR@loadafter{multirow}
567 \LWR@loadafter{multitoc}
568 \LWR@loadafter{musicography}
569 \LWR@loadafter{mwe}
570 \LWR@loadafter{nameauth}
571 \LWR@loadafter{nameref}
572 \LWR@loadafter{natbib}
573 \LWR@notmemoirloadafter{nccfancyhdr}
574 \LWR@loadafter{nccfoots}
575 \LWR@loadafter{nccmath}
576 \LWR@notmemoirloadafter{needspace}
577 % newclude must be loaded before lwarp
578 % newpxmath may be preloaded
579 % newtxmath may be loaded before lwarp
580 % newtxsf may be loaded before lwarp
581 % newunicodechar must be loaded before lwarp
582 \LWR@notmemoirloadafter{nextpage}
583 \LWR@loadafter{nicefrac}
584 \LWR@loadafter{niceframe}
585 \LWR@loadafter{nicematrix}
586 \LWR@loadafter{noitcruL}
587 \LWR@loadafter{nolbreaks}
588 \LWR@loadafter{nomencL}
589 \LWR@loadafter{nonfloat}
590 \LWR@loadafter{nonumonpart}
591 \LWR@loadafter{nopageno}
592 \LWR@loadafter{notes}
593 \LWR@loadafter{notespages}
594 \LWR@loadafter{nowidow}
595 \LWR@loadafter{ntheorem}
596 \LWR@loadafter{octave}
597 \LWR@loadafter{orcidlink}
598 \LWR@loadafter{overpic}
599 \LWR@loadafter{pagegrid}
600 \LWR@notmemoirloadafter{pagenote}
601 \LWR@loadafter{pagesel}
602 \LWR@loadafter{paralist}
603 \LWR@loadafter{parallel}
604 \LWR@loadafter{parcolumns}
605 \LWR@loadafter{parnotes}
606 \LWR@notmemoirloadafter{parskip}
607 \LWR@loadafter{pbalance}
608 \LWR@loadafter{pbox}
609 \LWR@loadafter{pdfcol}
610 \LWR@loadafter{pdfcolfoot}
611 \LWR@loadafter{pdfcolmk}
612 \LWR@loadafter{pdfcolparallel}
613 \LWR@loadafter{pdfcolparcolumns}
```

```
614 \LWR@loadafter{pdfcomment}
615 \LWR@loadafter{pdfcrypt}
616 \LWR@loadafter{pdflandscape}
617 \LWR@loadafter{pdfmarginpar}
618 \LWR@loadafter{pdfpages}
619 \LWR@loadafter{pdfprivacy}
620 \LWR@loadafter{pdfrender}
621 \LWR@loadafter{pdfsync}
622 \LWR@loadafter{pdftricks}
623 \LWR@loadafter{pdfx}
624 \LWR@loadafter{perpage}
625 \LWR@loadafter{pfnote}
626 \LWR@loadafter{phfqit}
627 \LWR@loadafter{physics}
628 \LWR@loadafter{physunits}
629 \LWR@loadafter{picinpar}
630 \LWR@loadafter{pifont}
631 \LWR@loadafter{pinlabel}
632 \LWR@loadafter{placeins}
633 \LWR@loadafter{plarray}
634 \LWR@loadafter{plarydshln}
635 \LWR@loadafter{plextarray}
636 \LWR@loadafter{plextarydshln}
637 \LWR@loadafter{plcolortbl}
638 \LWR@loadafter{plextdelarray}
639 \LWR@loadafter{plimsoll}
640 \LWR@loadafter{prelim2e}
641 \LWR@loadafter{prettyref}
642 \LWR@loadafter{preview}
643 \LWR@loadafter{psfrag}
644 \LWR@loadafter{psfragx}
645 \LWR@loadafter{pst-eps}
646 \LWR@loadafter{pstool}
647 \LWR@loadafter{pstricks}
648 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
649 \LWR@loadafter{pxeveryshi}
650 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
651 \LWR@loadafter{pxftnright}
652 \LWR@loadafter{pxjahyper}
653 \LWR@loadafter{quotchap}
654 \LWR@loadafter{quoting}
655 \LWR@loadafter{ragged2e}
656 \LWR@loadafter{realscripts}
657 \LWR@loadafter{refcheck}
658 \LWR@loadafter{register}
659 \LWR@loadafter{relsize}
660 \LWR@loadafter{repeatindex}
661 \LWR@loadafter{resizgather}
662 \LWR@loadafter{returntograd}
663 \LWR@loadafter{rlepsz}
664 \LWR@loadafter{rmathbr}
665 \LWR@loadafter{rmpage}
666 \LWR@loadafter{romanbar}
667 \LWR@loadafter{romanbarpagenumber}
668 \LWR@loadafter{rotating}
669 \LWR@loadafter{rotfloat}
670 \LWR@loadafter{rviewport}
671 \LWR@loadafter{savetrees}
672 % scalefnt is loaded by babel-french
673 \LWR@loadafter{scalerel}
```



674 \LWR@loadafter{schemata}  
675 \LWR@loadafter{scrextend}  
676 \LWR@loadafter{scrhack}  
677 \LWR@loadafter{scrLayer}  
678 \LWR@loadafter{scrLayer-notecolumn}  
679 \LWR@loadafter{scrLayer-scrpage}  
680 \LWR@loadafter{scrpage2}  
681 \LWR@loadafter{section}  
682 \LWR@loadafter{sectionbreak}  
683 \LWR@loadafter{sectsty}  
684 \LWR@loadafter{selectp}  
685 \LWR@loadafter{semantic-markup}  
686 \LWR@notmemoirloadafter{setspace}  
687 \LWR@loadafter{shadow}  
688 \LWR@loadafter{shapepar}  
689 \LWR@notmemoirloadafter{showidx}  
690 \LWR@loadafter{showLabels}  
691 \LWR@loadafter{showkeys}  
692 \LWR@loadafter{showtags}  
693 \LWR@loadafter{shuffle}  
694 \LWR@loadafter{sidecap}  
695 \LWR@loadafter{sidenotes}  
696 \LWR@loadafter{simplebnf}  
697 \LWR@loadafter{SIunits}  
698 \LWR@loadafter{siunitx}  
699 \LWR@loadafter{siunitx-v2}  
700 \LWR@loadafter{skmath}  
701 \LWR@loadafter{slantsc}  
702 \LWR@loadafter{slashed}  
703 \LWR@loadafter{soul}  
704 \LWR@loadafter{soulpos}  
705 \LWR@loadafter{soulutf8}  
706 \LWR@loadafter{splitbib}  
707 \LWR@loadafter{splitidx}  
708 \LWR@loadafter{srcltx}  
709 \LWR@loadafter{srctex}  
710 \LWR@loadafter{stabular}  
711 \LWR@loadafter{stackengine}  
712 \LWR@loadafter{stackrel}  
713 \LWR@loadafter{statex2}  
714 \LWR@loadafter{statistics}  
715 \LWR@loadafter{statmath}  
716 \LWR@loadafter{steinmetz}  
717 \LWR@notltjloadafter{stfloats}  
718 \LWR@loadafter{struktex}  
719 \LWR@loadafter{subcaption}  
720 \LWR@loadafter{subfig}  
721 \LWR@loadafter{subfigure}  
722 \LWR@loadafter{subsupscripts}  
723 \LWR@loadafter{supertabular}  
724 \LWR@loadafter{svg}  
725 \LWR@loadafter{swfigure}  
726 \LWR@loadafter{sympytex}  
727 \LWR@loadafter{syntonly}  
728 \LWR@loadafter{t1inc}  
729 \LWR@loadafter{tabfigures}  
730 \LWR@loadafter{tabls}  
731 \LWR@loadafter{tablefootnote}  
732 \LWR@notmemoirloadafter{tabularx}  
733 \LWR@loadafter{tabulary}

```
734 \LWR@loadafter{tagpdf}
735 \LWR@loadafter{tascmac}
736 \LWR@loadafter{tcolorbox}
737 \LWR@loadafter{tensor}
738 \LWR@loadafter{termcal}
739 \LWR@loadafter{textarea}
740 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
741 \LWR@loadafter{textfit}
742 \LWR@loadafter{textpos}
743 \LWR@loadafter{theorem}
744 \LWR@loadafter{thinsp}
745 \LWR@loadafter{thm-listof}
746 \LWR@loadafter{thm-restate}
747 \LWR@loadafter{thmbox}
748 \LWR@loadafter{thmtools}
749 \LWR@loadafter{threadcol}
750 \LWR@loadafter{threeparttable}
751 \LWR@loadafter{threeparttablex}
752 \LWR@loadafter{thumb}
753 \LWR@loadafter{thumbs}
754 \LWR@loadafter{tikz}
755 \LWR@loadafter{tikz-image-labels}
756 \LWR@loadafter{titleps}
757 \LWR@loadafter{titlesec}
758 \LWR@loadafter{titletoc}
759 \LWR@notmemoirloadafter{titling}
760 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
761 \LWR@notmemoirloadafter{tocbibind}
762 \LWR@loadafter{tocdata}
763 \LWR@loadafter{tocenter}
764 \LWR@notmemoirloadafter{tocloft}
765 \LWR@loadafter{tocstyle}
766 \LWR@loadafter{todo}
767 \LWR@loadafter{todonotes}
768 \LWR@loadafter{topcapt}
769 \LWR@loadafter{tram}
770 \LWR@loadafter{transparent}
771 \LWR@loadafter{trimclip}
772 \LWR@loadafter{trivfloat}
773 \LWR@loadafter{truncate}
774 \LWR@loadafter{turnthepage}
775 \LWR@loadafter{twoup}
776 % \LWR@loadafter{txfonts}% may be loaded before lwarp
777 % txgreek may be loaded before lwarp

778 % \LWR@loadafter{typearea}% preloaded by koma-script classes
779 \LWR@loadafter{typicons}
780 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
781 \LWR@loadafter{umoline}
782 \LWR@loadafter{underscore}
783 % unicode-math may be loaded before lwarp
784 \LWR@loadafter{units}
785 \LWR@loadafter{unitsdef}
786 \LWR@loadafter{upgreek}
787 \LWR@loadafter{upref}
788 \LWR@loadafter{url}
789 \LWR@loadafter{ushort}
790 \LWR@loadafter{uspace}
791 \LWR@loadafter{varioref}
792 \LWR@notmemoirloadafter{verse}
```

```

793 \LWR@loadafter{versonotes}
794 \LWR@loadafter{vertbars}
795 \LWR@loadafter{vmargin}
796 \LWR@loadafter{vowel}
797 \LWR@loadafter{vpe}
798 \LWR@loadafter{vwcol}
799 \LWR@loadafter{wallpaper}
800 \LWR@loadafter{watermark}
801 \LWR@loadafter{widetable}
802 \LWR@loadafter{widows-and-orphans}
803 \LWR@loadafter{witharrows}
804 \LWR@loadafter{wrapfig}
805 \LWR@loadafter{wrapfig2}
806 \LWR@loadafter{xbmks}
807 \LWR@loadafter{xcolor}
808 \LWR@loadafter{xexchangebar}
809 \LWR@loadafter{xellipsis}
810 % xetexko must be loaded before lwarp
811 \LWR@loadafter{xevlna}
812 \LWR@loadafter{xfakebold}
813 \LWR@loadafter{xfrac}
814 \LWR@loadafter{xltabular}
815 \LWR@loadafter{xltextra}
816 \LWR@loadafter{xmpincl}
817 \LWR@loadafter{xpiano}
818 \LWR@loadafter{xpinyin}
819 \LWR@loadafter{xr}
820 \LWR@loadafter{xr-hyper}
821 \LWR@loadafter{xtab}
822 % xunicode must be loaded before lwarp
823 \LWR@loadafter{xurl}
824 \LWR@loadafter{xy}
825 \LWR@loadafter{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

826 \newcommand{\LWR@mdfive}[1]{%
827   \PackageError{lwarp}
828     {No MD5 macro was found}
829     {%
830       Lwarp must find the macros \protect\pdfmdfivesum\space
831       or \protect\mdfivesum.%
832     }
833 }

```

The default for PDF<sup>L</sup>ATEX, DVI<sup>L</sup>ATEX, up<sup>L</sup>ATEX, etc:

```
834 \let\LWR@mdfive\pdfmdfivesum
```

For Lua<sup>L</sup>ATEX:

```

835 \ifLuaTeX
836 \RequirePackage{pdftexcmds}
837 \let\LWR@mdfive\pdfmdfivesum
838 \fi

```

For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X:

```
839 \ifXeTeX
840 \@ifundefined{pdfmfivesum}{}
841     {\let\LWR@mdfive\pdfmfivesum}
842 \@ifundefined{mdfivesum}{}
843     {\let\LWR@mdfive\mdfivesum}
844 \fi
```

## 22 PDF L<sup>A</sup>T<sub>E</sub>X T1 and UTF-8 encoding

When using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```
845 \newcommand*\LWR@pdfencoding{%
846     \RequirePackage[T1]{fontenc}
847
848     \IfPackageLoadedTF{inputenc}{}{
849         \IfPackageLoadedTF{inputenx}{}{
850             \RequirePackage[utf8]{inputenc}
851         }
852     }
853 }

854 \ifPDFTeX% pdflatex or dvi latex
855     \LWR@pdfencoding
856 \fi
857
858 \ifpTeX
859     \LWR@pdfencoding
860 \fi
```

## 23 Unicode input characters

**for HTML & PRINT:** If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```
861 \ifpTeX
862 \else
863 \RequirePackage{newunicodechar}
864
```

```

865 \newunicodechar{x}{\texttimes}
866
867 \ifPDFTeX% pdflatex or dvi latex
868 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
869 \newunicodechar{fi}{fi}
870 \newunicodechar{fl}{fl}
871 \newunicodechar{ffi}{ffi}
872 \newunicodechar{ffl}{ffl}
873 \newunicodechar{-}{---}
874 \newunicodechar{-}{--}
875 \fi
876
877 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF L<sup>A</sup>T<sub>E</sub>X, and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

878 \ifxetexorluatex
879 \else
880   \ifdefstring{\f@family}{cmr}{
881     \IfFileExists{typelec.sty}% found in cm-super
882     {}
883     {% cm-super not installed
884       \IfFileExists{lmodern.sty}{
885         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
886         \RequirePackage{lmodern}
887       }{
888         \PackageError{lwarp}
889         {%
890           Lwarp requires a vector font.\MessageBreak
891           Install and load cm-super, lmodern, or another\MessageBreak
892           Type-1 vector font before loading lwarp.\MessageBreak
893           Enter 'H' for possible solutions%
894         }
895         {%
896           Install cm-super or lmodern.\MessageBreak
897           If lmodern, load it before lwarp:\MessageBreak
898           \space\space\protect\usepackage{lmodern}\MessageBreak
899           \space\space\protect\usepackage{lwarp}%
900         }
901       }
902     }% cm-super not installed
903   }{}% f@family
904 \fi

```

## 25 Upright quotes

In PDF T<sub>E</sub>X, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

905 \ifPDFTeX
906 \RequirePackage{upquote}
907 \fi

```

```

908
909 \ifpTeX
910   \RequirePackage{upquote}
911 \fi

```

## 26 Avoid bad font combinations

For Xe<sub>L</sub>A<sub>T</sub>E<sub>X</sub> and Lua<sub>L</sub>A<sub>T</sub>E<sub>X</sub>, certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

912 \ifxetexorluatex
913   \AtBeginDocument{
914     \IfPackageLoadedTF{kpfonts}{
915       \PackageError{lwarp}
916         {%
917           When using XeLaTeX or LuaLaTeX, \MessageBreak
918           use kpfonts-otf instead of kpfonts%
919         }
920       {%
921         Replace: \protect\usepackage{kpfonts}\MessageBreak
922         with: \protect\usepackage{kpfonts-otf}
923       }
924     }{}
925   }
926 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

927 \newlength{\LWR@templengthone}
928 \newlength{\LWR@templengthtwo}
929 \newlength{\LWR@templengththree}
930 \newcounter{LWR@tempcountone}

```

### 27.2 Lengths and units

`\LWR@providelength` `{\lengthname}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

931 \newcommand*\LWR@providelength[1]{%
932   \ifdeflength{#1}{\newlength{#1}}%
933 }

```

`\LWR@convertto` `{\dest unit}` `{\length}`

Prints a length in the given units, without printing the unit itself.

```

934 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}

```

`\LWR@printpercentlength`  $\{\langle smaller \rangle\} \{\langle larger \rangle\}$

Prints a percent ratio of the two lengths.

```
935 \newcommand*\LWR@printpercentlength[2]{%
936   \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
937   \arabic{LWR@tempcountone}%
938 }
```

### 27.3 Counters

`\defaddtcounter`  $\{\langle name \rangle\} \{\langle value \rangle\}$

Locally add to a counter.

```
939 \providecommand*\defaddtcounter[2]{%
940   \defcounter{#1}{\value{#1}+#2}%
941 }
```

### 27.4 Patching macros

`\LWR@patcherror`  $\{\langle packagename \rangle\} \{\langle macroname \rangle\}$

Prints an error if could not patch a macro.

```
942 \newcommand*\LWR@patcherror[2]{%
943   \PackageError{Lwarp}%
944   {%
945     Unable to patch package #1,\MessageBreak
946     macro \LWRbackslash #2.\MessageBreak
947     Lwarp or #1 may need to be updated%
948   }%
949   {Please contact the maintainer of the Lwarp package.}%
950 }
```

### 27.5 Copying macros

`\csNewCommandCopycs`  $\{\langle dest csname \rangle\} \{\langle source csname \rangle\}$

Given a cs-name for each, copies a macro to a new definition.

```
951 \providecommand*\csNewCommandCopycs[2]{%
952   \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%
953   \csname#2\endcsname%
954 }
```

`\NewEnvironmentCopy`  $\{\langle dest \rangle\} \{\langle source \rangle\}$

Copies an environment to a new definition.

```
955 \providecommand*\NewEnvironmentCopy[2]{%
956   \csNewCommandCopycs{#1}{#2}%
957   \csNewCommandCopycs{end#1}{end#2}%
958 }
```

## 27.6 Chinese text isolation

`\LWR@isolate`  $\langle text \rangle$  Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
959 \newcommand{\LWR@isolate}[1]{#1}%
960
961 \IfPackageLoadedTF{ctexpatch}{
962   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
963 }{}
964
965 \IfPackageLoadedTF{xeCJK}{
966   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
967 }{}
```

`\LWR@disablepinyin` Disable `xpinyin` during file, `sideTOC`, and footnote generation. Set by `xpinyin`.

```
968 \newcommand*\LWR@disablepinyin{}
```

## 27.7 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```
969 \newcommand*\LWR@forceemptyline}{%
970   \LWR@origrule{0pt}{1\baselineskip}%
971   \LWR@orignewline%
972 }
```

## 27.8 Argument selection

`\LWR@thirdofthree`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$

`\LWR@fourthoffour`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$

`\LWR@firstoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@secondoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@thirdoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@fourthoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

`\LWR@fifthoffive`  $\langle first \rangle$   $\langle second \rangle$   $\langle third \rangle$   $\langle fourth \rangle$   $\langle fifth \rangle$

Expands to the *n*th of the five arguments. Used for extra cross referencing.

```
973 \long\def\LWR@thirdofthree#1#2#3#3{%
974 \long\def\LWR@fourthoffour#1#2#3#4#4{%
975
```



```

976 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
977 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
978 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
979 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
980 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}

```

## 27.9 Inside boxes

Greater than zero if currently inside a T<sub>E</sub>X box, thus should not use `\LWR@orignewpage`. See section 13.2.

```

981 \newcounter{LWR@textboxdepth}
982 \setcounter{LWR@textboxdepth}{0}

```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T<sub>E</sub>X box.

```

983 \newcommand*{\LWR@maybe@orignewpage}{%
984   \LWR@traceinfo{LWR@maybe@orignewpage}%
985   \ifnumgreater{\value{LWR@textboxdepth}}{0}%
986     {}%
987     {\LWR@orignewpage}%
988   \LWR@traceinfo{LWR@maybe@orignewpage done}%
989 }

```

## 27.10 Global boxes

`\LWR@gsavebox` `{\langle macroname \rangle}{\langle contents \rangle}`

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

990 \DeclareRobustCommand\LWR@gsavebox[1]{%
991   \ifnextchar(%
992     {\LWR@gsavepicbox#1}{\ifnextchar[{\LWR@gsavebox#1}{\LWR@gsbox#1}}}%
993 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
994   \color@setgroup#2\color@endgroup}}
995 \def\LWR@@gsavebox#1[#2]{%
996   \ifnextchar [ {\LWR@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}
997 \long\def\LWR@igsavebox#1[#2][#3]#4{%
998   \LWR@gsbox#1{\@makebox[#2][#3]{#4}}
999 \def\LWR@igsavepicbox#1(#2,#3){%
1000   \ifnextchar[%
1001     {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[]}
1002 \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
1003   \LWR@gsbox#1{\@makepicbox(#2,#3)[#4]{#5}}

```

Env `LWR@glrbox` `{\langle macroname \rangle}`

```

1004 \def\LWR@glrbox#1{%
1005   \edef\reserved@a{%
1006     \endgroup
1007     \global\setbox#1\hbox{%
1008       \begingroup\aftergroup%
1009       \def\noexpand\@currnir{\@currnir}%

```

```

1010     \def\noexpand\@currentline{\on@line}}%
1011 \reserved@a
1012     \@endpfalse
1013     \color@setgroup
1014     \ignorespaces}
1015 \let\LWR@endglrbox\LWR@endlrbox

```

## 27.11 Converting a macro name to a cs name

`\macroto csname` {<*macro name with backslash*>}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1016 \newcommand*{\macroto csname}[1]{%
1017   \ifcat\relax\noexpand#1%
1018     \expandafter\expandafter\expandafter\@gobble\expandafter\string
1019   \fi
1020   #1%
1021 }

```

## 27.12 Title case

`\LWRtexttitlecase`

```

1022 \ExplSyntaxOn
1023 \newcommand*{\LWRtexttitlecase}[1]{%
1024   \text_titlecase:n{#1}%
1025 }
1026 \ExplSyntaxOff

```

## 27.13 LetLtxMacros

`\LWR@LetLtxMacros` {<*newcsname*>} {<*oldcsname*>}

`\LetLtxMacro` with cs names.

```

1027 \newcommand*{\LWR@LetLtxMacros}[2]{%
1028   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1029   \csname#2\endcsname%
1030 }

```

## 27.14 Absorbing a star

`\LWR@absorbstar` {<*csname*>}

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```

1031 \newcommand*\LWR@absorbstar}[1]{%
1032   \LWR@LetLtxMacros{LWR@origins@#1}{#1}%
1033   \csdef{#1}{\@ifstar{\csuse{LWR@origins@#1}}{\csuse{LWR@origins@#1}}}
1034   \expandafter\robustify\csname #1\endcsname
1035 }

```

## 28 Operating-System portability

Prog Unix  
 Prog Mac OS  
 Prog Linux  
 Prog MS-Windows  
 Prog Windows  
 Opt OSWindows

lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.

If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.

When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.

### 28.1 Literal characters

Literal characters to be used in PrintLatexCmd and HTMLLatexCmd. These are defined without @ to easily allow their inclusion in the user’s document.

The literal % character:

```
1036 \let\LWRpercent\@percentchar
```

The literal \$ character:

```

1037 \catcode'\$=12
1038 \def\LWRdollar{$}
1039 \catcode'\$=3

```

The literal & character:

```

1040 \catcode'\&=12
1041 \def\LWRamp{&}
1042 \catcode'\&=4

```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```

1043 \catcode'\&=0
1044 &catcode'\&=12
1045 &def&LWRbackslash{\}
1046 &catcode'\&=0
1047 \catcode'\&=4

```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```

1048 \catcode'\&=1
1049 \catcode'\{=12
1050 \def\LWRleftbrace&{ }

```

```
1051 \catcode'\{=1
1052 \catcode'\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
1053 \catcode'\&=2
1054 \catcode'\}=12
1055 \def\LWRrightbrace{ }&
1056 \catcode'\}=2
1057 \catcode'\&=4
```

The literal # character:

```
1058 \catcode'\#=12
1059 \def\LWRhash{#}
1060 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1061 \def\LWRopquote{' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1062 \def\LWRopseq{ \space\LWRamp\LWRamp\space\space }
```

## 28.2 Common portability code

Bool `usingOSWindows`

Set if the `OSWindows` option is used, or if `WINDOWS` is automatically detected.

```
1063 \newbool{usingOSWindows}
1064 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
1065 \newcommand*{\OSPathSymbol}{/}
```

## 28.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```
1066 \newcommand*{\LWR@setOSWindows}
```

```

1067 {
1068 \booltrue{usingOSWindows}
1069 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1070 \def\LWRopquote{"}
1071 \def\LWRopseq{\space\LWRamp\space\space}
1072 }

```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```

1073 \ifwindows
1074 \LWR@setOSWindows
1075 \fi

```

## 29 Package options

Pkg kvoptions

Allows key/value package options.

```

1076 \RequirePackage{kvoptions}
1077 \SetupKeyvalOptions{family=LWR,prefix=LWR@}

```

`\lwarpsetup` A user interface to set the keys:

```

1078 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}

```

Bool warpingprint

Bool warpingHTML

Bool mathjax

Bool LWR@origmathjax

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

LWR@origmathjax remembers the original setting to be restored by `\displaymathnormal`.

```

1079 \newbool{warpingprint}
1080 \newbool{warpingHTML}
1081 \newbool{mathjax}
1082 \newbool{LWR@origmathjax}

```

**defaults** The default is print output, and svg math if the user chose HTML output.

```

1083 \booltrue{warpingprint}%
1084 \boolfalse{warpingHTML}%
1085 \boolfalse{mathjax}%

```

Opt warpprint

If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for `\ifbool` tests.

```

1086 \DeclareVoidOption{warpprint}{%
1087   \PackageInfo{lwarp}{Using option 'warpprint'}
1088   \booltrue{warpingprint}%
1089   \boolfalse{warpingHTML}%
1090 }

```

Opt warpHTML

Anything in the warpHTML environment will be generated for HTML output only.

Opt `warpHTML` If the `warpHTML` option is given, boolean `warpingHTML` is true and boolean `warpingprint` is false, and may be used for `\ifbool` tests.

```
1091 \DeclareVoidOption{warpHTML}{%
1092   \PackageInfo{lwarp}{Using option 'warpHTML'}%
1093   \booltrue{warpingHTML}%
1094   \boolfalse{warpingprint}%
1095 }
```

Opt `mathsvg` Option `mathsvg` selects SVG math display: If the `mathsvg` option is given, boolean `mathjax` is false, and may be used for `\ifbool` tests.

```
1096 \DeclareVoidOption{mathsvg}{%
1097   \PackageInfo{lwarp}{Using option 'mathsvg'}
1098   \boolfalse{mathjax}%
1099   \boolfalse{LWR@origmathjax}%
```

```
1100 }
```

Opt `mathjax` Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
1101 \DeclareVoidOption{mathjax}{%
1102   \PackageInfo{lwarp}{Using option 'mathjax'}
1103   \booltrue{mathjax}%
1104   \booltrue{LWR@origmathjax}%
```

```
1105 }
```

Opt `BaseJobname` Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1106 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

Default: `\jobname-images`

```
1107 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.

Default: `image-`

```
1108 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.20.

Default: `lwarp.ist`

```
1109 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

Opt `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.21.

Default: `lwarp.xdy`

```
1110 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```

- Opt `xindyLanguage`  
 Default: `english`  
 Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.
- ```
1111 \DeclareStringOption[english]{xindyLanguage}
```
- Opt `xindyCodepage`  
 Default: `utf8`  
 Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.
- ```
1112 \DeclareStringOption[utf8]{xindyCodepage}
```
- Opt `xindexConfig`  
 Default: `<empty>`  
 Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.22.
- ```
1113 \DeclareStringOption[]{}{xindexConfig}
```
- Opt `pdftotextEnc`  
 Default: `UTF-8`  
 The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.
- ```
1114 \DeclareStringOption[UTF-8]{pdftotextEnc}
```
- Opt `lwarpmk`  
 Tells *lwarp* to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.
- If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:
- ```
1115 \newbool{LWR@creatinglwarpmk}
1116 \boolfalse{LWR@creatinglwarpmk}
1117
1118 \DeclareVoidOption{lwarpmk}{
1119   \PackageInfo{lwarp}{Using option 'lwarpmk'}
1120   \booltrue{LWR@creatinglwarpmk}
1121 }
```
- Opt `OSWindows`  
 Tells *lwarp* to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.
- ```
1122 \DeclareVoidOption{OSWindows}{
1123   \PackageInfo{lwarp}{Using option 'OSWindows'}
1124   \LWR@setOSWindows
1125 }
```
- Opt `HomeHTMLFilename`  
 Default: `\BaseJobname`  
 The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.
- ```
1126 \DeclareStringOption[]{}{HomeHTMLFilename}
```
- Opt `HTMLFilename`  
 Default: `<empty>`  
 The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.
- ```
1127 \DeclareStringOption[]{}{HTMLFilename}
```

- Opt `PrintLatexCmd`      The shell commands to use to compile the print document.  
     Default: `<automatic>`  
 1128 `\DeclareStringOption[]{\PrintLatexCmd}`
- Opt `HTMLLatexCmd`      The shell commands to use to compile the HTML document.  
     Default: `<automatic>`  
 1129 `\DeclareStringOption[]{\HTMLLatexCmd}`
- Opt `PrintIndexCmd`      The shell commands to use to compile the print indexes.  
     Default: `<empty>`  
 1130 `\DeclareStringOption[]{\PrintIndexCmd}`
- Opt `HTMLIndexCmd`      The shell commands to use to compile the HTML indexes.  
     Default: `<empty>`  
 1131 `\DeclareStringOption[]{\HTMLIndexCmd}`
- Opt `LatexmkIndexCmd`    The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.  
     Default: `<empty>`  
 1132 `\DeclareStringOption[]{\LatexmkIndexCmd}`
- Opt `makeindex`          Tells *lwarp* to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.  
 1133 `\DeclareBoolOption[false]{makeindex}`
- Opt `xindy`              Tells *lwarp* to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.  
 1134 `\DeclareBoolOption[false]{xindy}`
- Opt `xindex`             Tells *lwarp* to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.  
 1135 `\DeclareBoolOption[false]{xindex}`
- Opt `IndexRef`          Tells *lwarp* how to display the index entries in HTML output. See section 7.5.  
     Default: `cref`  
 1136 `\DeclareStringOption[cref]{IndexRef}`
- Opt `GlossaryCmd`        The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.  
     Default: `makeglossaries`  
 1137 `\DeclareStringOption[makeglossaries]{GlossaryCmd}`
- Opt `latexmk`            Option `latexmk` tells *lwarpmk* to use *latexmk* when compiling documents.  
 1138 `\DeclareBoolOption[false]{latexmk}`



Opt	dvips	Option dvips tells <i>lwarpmk</i> to use <i>dvips</i> when compiling DVI <i>latex</i> documents.
		1139 \DeclareBoolOption[false]{dvips}
Opt	dvipdfm	Option dvipdfm tells <i>lwarpmk</i> to use <i>dvipdfm</i> when compiling DVI <i>latex</i> documents.
		1140 \DeclareBoolOption[false]{dvipdfm}
Opt	dvipdfmx	Option dvipdfmx tells <i>lwarpmk</i> to use <i>dvipdfmx</i> when compiling DVI <i>latex</i> documents.
		1141 \DeclareBoolOption[false]{dvipdfmx}

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1142 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1143 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1144 \ifcseempty{\LWR@HomeHTMLFilename}{
1145   \newcommand*\HomeHTMLFilename{\BaseJobname}
1146 }{
1147   \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1148 }
1149
1150 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1151 \newcommand*\LWR@sanitized{}
```

`\LWR@sanitize` `{\langle text \rangle}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
1152 \newcommand*\LWR@sanitize[1]{%
1153 \edef\LWR@sanitized{#1}%
1154 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1155 }
```

Sanitize some string options to neutralize underscores.

```
1156 \LWR@sanitize{\LWR@BaseJobname}
1157 \edef\LWR@BaseJobname{\LWR@sanitized}
```

```

1158
1159 \LWR@sanitize{\LWR@ImagesDirectory}
1160 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1161
1162 \LWR@sanitize{\LWR@ImagesName}
1163 \edef\LWR@ImagesName{\LWR@sanitized}

```

\LWR@PrintIndexCmd and \LWR@HTMLIndexCmd are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the *lwarp xindy* option was selected, then likewise for *xindex* if the *xindex* option was selected.

```

1164 \ifdefempty{\LWR@PrintIndexCmd}{
1165   \renewcommand{\LWR@PrintIndexCmd}{%
1166     makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1167   }
1168   \ifbool{LWR@xindy}{
1169     \renewcommand{\LWR@PrintIndexCmd}{%
1170       xindy
1171       -M \LWR@xindyStyle \space
1172       -L \LWR@xindyLanguage \space
1173       -C \LWR@xindyCodepage \space
1174       \jobname.idx%
1175     }
1176   }{}
1177   \ifbool{LWR@xindex}{
1178     \ifdefvoid{\LWR@xindexConfig}{
1179       \renewcommand{\LWR@PrintIndexCmd}{%
1180         xindex
1181         \jobname.idx%
1182       }
1183     }{
1184       \renewcommand{\LWR@PrintIndexCmd}{%
1185         xindex
1186         -c \LWR@xindexConfig \space
1187         \jobname.idx%
1188       }
1189     }
1190   }{}
1191 }{}
1192
1193 \ifdefempty{\LWR@HTMLIndexCmd}{
1194   \renewcommand{\LWR@HTMLIndexCmd}{%
1195     makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1196   }
1197   \ifbool{LWR@xindy}{
1198     \renewcommand{\LWR@HTMLIndexCmd}{%
1199       xindy
1200       -M \LWR@xindyStyle \space
1201       -L \LWR@xindyLanguage \space
1202       -C \LWR@xindyCodepage \space
1203       \jobname_html.idx%
1204     }
1205   }{}
1206   \ifbool{LWR@xindex}{
1207     \ifdefvoid{\LWR@xindexConfig}{
1208       \renewcommand{\LWR@HTMLIndexCmd}{%
1209         xindex
1210         \jobname_html.idx%

```

```

1211     }
1212   }{
1213     \renewcommand{\LWR@HTMLIndexCmd}{%
1214       xindex
1215       -c \LWR@indexConfig \space
1216       \jobname_html.idx%
1217     }
1218   }
1219 }{}
1220 }{}
1221
1222 \ifdefempty{\LWR@LatexmkIndexCmd}{
1223   \renewcommand{\LWR@LatexmkIndexCmd}{%
1224     makeindex -s \LWR@makeindexStyle%
1225   }
1226   \ifbool{\LWR@xindy}{
1227     \renewcommand{\LWR@LatexmkIndexCmd}{%
1228       xindy
1229       -M \LWR@xindyStyle \space
1230       -L \LWR@xindyLanguage \space
1231       -C \LWR@xindyCodepage%
1232     }
1233   }{}
1234   \ifbool{\LWR@index}{
1235     \ifdefvoid{\LWR@indexConfig}{
1236       \renewcommand{\LWR@LatexmkIndexCmd}{%
1237         xindex
1238       }
1239     }{
1240       \renewcommand{\LWR@LatexmkIndexCmd}{%
1241         xindex
1242         -c \LWR@indexConfig
1243       }
1244     }
1245   }{}
1246 }{}

```

## 29.2 Conditional compilation

`\warpprintonly` {<*contents*>}

Only process the contents if producing printed output.

```
1247 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly` {<*contents*>}

Only process the contents if producing HTML output.

```
1248 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

Pkg comment

Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1249 \RequirePackage{comment}
```

`\LWR@includecomment` {<env name>} {<partial filename>}

`\LWR@excludecomment` {<env name>} {<partial filename>}

Use many comment cut files to avoid collision in case the user uses the comment package. Each filename is “comment\_#2.cut”. Based on the comment package.

```

1250 \def\LWR@includecomment
1251 #1#2{\message{Lwarp: Including comment '#1'}%
1252   \csarg\def{After#1Comment}{%
1253     \CloseAndInputCutFile%
1254     \csundef{LWR@#1commentused}%
1255   }
1256   \csarg\def{#1}{%
1257     \endgroup
1258     \ifcsdef{LWR@#1commentused}{
1259       \PackageError{Lwarp}%
1260         {Nested #1 environment}%
1261       {%
1262         Environment #1 cannot be nested.\MessageBreak
1263         This can happen when a package is loaded
1264         from inside a\MessageBreak
1265         #1 environment.%
1266       }%
1267     }{\relax}
1268     \csdef{LWR@#1commentused}{%
1269       \message{Including '#1' comment.}%
1270       \def\CommentCutFile{comment_#2.cut}
1271       \SetUpCutFile
1272       \ProcessComment{#1}
1273     }%
1274     \CommentEndDef{#1}
1275 }
1276
1277 \def\LWR@excludecomment
1278 #1#2{\message{Lwarp: Excluding comment '#1'}%
1279   \csarg\def{#1}{
1280     \endgroup
1281     \message{Excluding '#1' comment.}%
1282     \beginingroup
1283       \def\CommentCutFile{comment_#2.cut}
1284       \def\ProcessCutFile{}%
1285       \def\ThisComment####1{}%
1286       \ProcessComment{#1}
1287     }%
1288     \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1289     \CommentEndDef{#1}}

```

Env `warpall` Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1290 \LWR@includecomment{warpall}{all}
```

Env `warpHTML` For HTML output:

```

1291 \ifbool{warpingHTML}
1292   {\LWR@includecomment{warpHTML}{html}}
1293   {\LWR@excludecomment{warpHTML}{html}}

```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```
1294 \ifbool{warpingprint}
1295   {\LWR@includefcomment{warpprint}{print}}
1296   {\LWR@excludefcomment{warpprint}{print}}
```

Env `warpMathJax` Only if `MATHJAX` is being used along with `HTML`.

```
1297 \begin{warpprint}
1298 \LWR@excludefcomment{warpMathJax}{mathjax}
1299 \end{warpprint}
1300
1301 \begin{warpHTML}
1302 \ifbool{mathjax}
1303   {\LWR@includefcomment{warpMathJax}{mathjax}}
1304   {\LWR@excludefcomment{warpMathJax}{mathjax}}
1305 \end{warpHTML}
```

Env `warpsvg` Only if `SVG math` is being used along with `HTML`, or in print mode.

```
1306 \begin{warpprint}
1307 \LWR@includefcomment{warpsvg}{mathsvg}
1308 \end{warpprint}
1309
1310 \begin{warpHTML}
1311 \ifbool{mathjax}
1312   {\LWR@excludefcomment{warpsvg}{mathsvg}}
1313   {\LWR@includefcomment{warpsvg}{mathsvg}}
1314 \end{warpHTML}
```

Env `LWRcreateLwarpmk` Optionally generate a local copy of `lwarpmk`. Default to `no`.

```
1315 \ifbool{LWR@creatingLwarpmk}
1316   {\LWR@includefcomment{LWRcreateLwarpmk}{Lwarpmk}}
1317   {\LWR@excludefcomment{LWRcreateLwarpmk}{Lwarpmk}}
```

## 30 Required packages

These packages are automatically loaded by `lwarp` when generating `HTML` output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1318 `\begin{warpHTML}`

Pkg `fontspec`

Load `fontspec` if necessary:

```
1319 \ifxetexorluatex
1320 \IfPackageLoadedTF{fontspec}{}{
1321   \usepackage[no-math]{fontspec}
1322 }
```

The monospaced font is used for `HTML` tags, so turn off its TeX ligatures and common ligatures:

```

1323 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1324 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1325 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1326 \else

```

*pdf<sub>l</sub>atex* only: **Only pre-loaded if *pdf<sub>l</sub>atex* is being used.**

Pkg microtype

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1327 \RequirePackage{microtype}
1328
1329 \microtypesetup{
1330   protrusion=false,
1331   expansion=false,
1332   tracking=false,
1333   kerning=false,
1334   spacing=false}
1335 %   \begin{macrocode}
1336 %
1337 % Disable ligatures for typewriter fonts.
1338 % The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1339 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1340 % are now allowed.
1341 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1342 % ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1343 %   \begin{macrocode}
1344 \DisableLigatures{encoding = *,family = tt*}

1345 \fi

1346 \end{warpHTML}

```

Pkg geometry

Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1347 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by **lwarp** \AtBeginDocument with a very large page size to reduce HTML tag overflow off the page.

```

1348 \IfPackageLoadedTF{geometry}
1349 {}{
1350   \RequirePackage[

```

```

1351     reset,
1352     paperwidth=\paperwidth,
1353     paperheight=\paperheight,
1354     textwidth=\textwidth,
1355     textheight=\textheight,
1356     left=\oddsidemargin,
1357     top=\topmargin,
1358     marginparsep=\marginparsep,
1359     marginparwidth=\marginparwidth,
1360   ]{geometry}
1361 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1362 \LetLtxMacro\LWR@origgeometry\geometry
1363 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1364 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1365 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1366 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```

Bool  
LWR@allowanothergeometry

`geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1367 \newbool{LWR@allowanothergeometry}
1368 \booltrue{LWR@allowanothergeometry}

```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1369 \AtEndPreamble{
```

Whatever `geometry` choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lylualatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1370 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```

1371 \newlength{\LWR@userspaperwidth}
1372 \setlength{\LWR@userspaperwidth}{\paperwidth}
1373
1374 \newlength{\LWR@userspaperheight}
1375 \setlength{\LWR@userspaperheight}{\paperheight}
1376
1377 \newlength{\LWR@usersmarginparwidth}
1378 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1379

```

```

1380 \newlength{\LWR@userstextwidth}
1381 \setlength{\LWR@userstextwidth}{\textwidth}
1382
1383 \newlength{\LWR@userstextheight}
1384 \setlength{\LWR@userstextwidth}{\textheight}

```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1385 \LWR@origgeometry{
1386     reset,
1387     paperheight=190in,
1388     paperwidth=20in,
1389     left=2in,
1390     right=6in,
1391     top=1in,
1392     bottom=1in,
1393     heightrounded,%
1394 }

```

The `lwarp` page geometry is saved for future restore:

```

1395 \LWR@origsavegeometry{\LWR@lwarpgeometry}

```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```

1396 \boolfalse{\LWR@allowanothergeometry}%

```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1397 \setlength{\textheight}{0.8\paperheight}
1398 \setlength{\textwidth}{0.7\paperwidth}
1399
1400 \@twosidefalse
1401 \@mparswitchfalse
1402 }% \AtEndPreamble
1403
1404 \end{warpHTML}

```

**for HTML & PRINT:** 1405 \begin{warpall}

Pkg xparse

$\LaTeX$ 3 command argument parsing

```

1406 \RequirePackage{xparse}

```

Pkg calc

```

1407 \RequirePackage{calc}

```

```

1408 \end{warpall}

```

**for HTML output:** 1409 \begin{warpHTML}

Pkg expl3



L<sup>A</sup>T<sub>E</sub>X3 programming

```
1410 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate `\nameref`.

```
1411 \RequirePackage{gettitlestring}
```

```
1412
```

```
1413
```

```
1414 \end{warpHTML}
```

**for HTML & PRINT:** `1415 \begin{warpall}`

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the `filecontents` package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original `filecontents` package is used, but it is patched to throw away the new optional argument.

```
1416 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
```

```
1417
```

```
1418   \RequirePackage{filecontents}
```

```
1419
```

```
1420   \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
```

```
1421
```

```
1422   \IfPackageAtLeastTF{filecontents}{2011/10/08}
```

```
1423   {
```

For a newer version of the `filecontents` package, simply discard the optional argument.

```
1424       \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
```

```
1425   }
```

```
1426   {% patch older package for morewrites
```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```
1427       \newwrite\fcwrite
```

```
1428       \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
```

```
1429         \def\chardef##1\write{\let\reserved@cfwrite}%
```

```
1430         \LWR@orig@filec@ntents%
```

```
1431     }
```

```
1432 }
```

```
1433
```

```
1434 }% older kernel
```

```
1435 {% newer kernel
```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```
1436 }% newer kernel, filecontents env accepts optional args, do not load package
```

```
1437 \end{warpall}
```

**for HTML output:** 1438 \begin{warpHTML}

Pkg xifthen

```
1439 \RequirePackage{xifthen}
```

Pkg verbatim

```
1440 \RequirePackage{verbatim}
```

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

```
1441 \RequirePackage{refcount}
```

Pkg newfloat

```
1442 \RequirePackage{newfloat}
```

```
1443 \end{warpHTML}
```

**for HTML & PRINT:** 1444 \begin{warpall}

Pkg xstring

 [index](#)

There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.

```
1445 \RequirePackage{xstring}[2019/02/01]
```

Pkg environ

Used to encapsulate math environments for re-use in HTML <alt> text.

```
1446 \RequirePackage{environ}
```

```
1447 \end{warpall}
```

**for HTML output:** 1448 \begin{warpHTML}

Pkg printlen

Used to convert lengths for image width/height options.

```
1449 \RequirePackage{printlen}
```

\LWR@printlength {<length>}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1450 \newrobustcmd*{\LWR@printlength}[1]{%
```

```
1451   \beginingroup%
```

```

1452 \uselengthunit{PT}%
1453 \renewcommand*\unitspace{}%
1454 \ifdimless{#1}{10pt}{%
1455     \printlength{#1}%
1456 }{%
1457     \rndprintlength{#1}%
1458 }%
1459 \endgroup%
1460 }

1461 \end{warpHTML}

```

### 31 Loading packages

`\RequirePackage` and `\usepackage` are modified to error-check for certain packages, and for HTML they load the `lwarp-` version if it exists.

**for HTML & PRINT:** 1462 `\begin{warpall}`

Remember the original `\RequirePackage`:

```

1463 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1464 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions

```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1465 \newcommand*\LWR@requirepackagenames{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1466 \newcommand*\LWR@parsedrequirepackagenames{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```

1467 \newcommand*\LWR@nullifycomment{%
1468     \PackageInfo{lwarp}%
1469     {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1470     \let\comment\relax%
1471     \let\endcomment\relax%
1472 }

```

`\LWR@findword` [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to `\StrBetween`.

```

1473 \newcommand*\LWR@findword[3][,]{%
1474     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1475 }

```

`\LWR@checkloadnever` {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1476 \LetLtxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename`  $\{\langle filename \rangle\}$  Checks if this filename should be loaded after `lwarp`, or never at all.

```
1477 \newcommand*{\LWR@checkloadfilename}[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1478 \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1479 \LWR@checkloadnevers
```

The following should only be loaded before `lwarp`:

```
1480 \LWR@checkloadbefore{ctex}
1481 \LWR@checkloadbefore{fontspec}
1482 \LWR@checkloadbefore{inputenc}
1483 \LWR@checkloadbefore{inputenx}
1484 \LWR@checkloadbefore{nfssexp-cfr}
1485 \LWR@checkloadbefore{fontaxes}
1486 \LWR@checkloadbefore{kotex}
1487 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1488 \LWR@checkloadbefore{luatexja}
1489 \LWR@checkloadbefore{luatexja-fontspec}
1490 \LWR@checkloadbefore{luatexko}
1491 \LWR@checkloadbefore{morewrites}
1492 \LWR@checkloadbefore{newclude}
1493 \LWR@checkloadbefore{newunicodechar}
1494 \LWR@checkloadbefore{pnext}
1495 \LWR@checkloadbefore{xeCJK}
1496 \LWR@checkloadbefore{xetexko}
1497 \LWR@checkloadbefore{zxjatype}
1498 }
```

`\LWR@lookforpackagename`  $\{\langle index \rangle\}$

If HTML, and if this is an `lwarp`-supported package name, re-direct it to the `lwarp` version by renaming it `lwarp-` followed by the original name.

Looks `index` deep into the list of package names, `\LWR@requirepackagenames`, and builds `\LWR@parsedrequirepackagenames` which is the modified list of names.

```
1499 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the `index`'th package name from the list:

```
1500 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1501 \StrSubstitute[100]{\LWR@strresult}{ }{ }\LWR@strresulttwo]%
```

See if the package name was found:

```
1502 \IfStrEq{\LWR@strresulttwo}{}%
1503 {}% no filename
1504 {% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1505 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1506 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before `lwarp`, or never at all:

```
1507 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%}
```

If HTML, and if found, and if an `lwarp`-equivalent name exists, use `lwarp-*` instead.

```
1508 \ifboolexpr{
1509     bool{warpingHTML} and
1510     test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1511 }%
1512 {% lwarp-* file found
1513     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1514         \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1515     }{%
1516         \edef\LWR@parsedrequirepackagenames{%
1517             \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1518         }%
1519     }%
1520 }%
1521 {%
```

Otherwise, use the current package name.

```
1522 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1523     \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1524 }{%
1525     \edef\LWR@parsedrequirepackagenames{%
1526         \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1527     }%
1528 }%
1529 }% no lwarp-* file
1530 }% yes filename
1531 }
```

`\RequirePackage` [*1: options*] [*2: package names*] [*3: version*]

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```
1532 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```

1533 \renewcommand*{\LWR@requirepackagenames}{#2}%
1534 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1535 \LWR@lookforpackagename{1}%
1536 \LWR@lookforpackagename{2}%
1537 \LWR@lookforpackagename{3}%
1538 \LWR@lookforpackagename{4}%
1539 \LWR@lookforpackagename{5}%
1540 \LWR@lookforpackagename{6}%
1541 \LWR@lookforpackagename{7}%
1542 \LWR@lookforpackagename{8}%
1543 \LWR@lookforpackagename{9}%
1544 \LWR@lookforpackagename{10}%
1545 \LWR@lookforpackagename{11}%
1546 \LWR@lookforpackagename{12}%
1547 \LWR@lookforpackagename{13}%
1548 \LWR@lookforpackagename{14}%
1549 \LWR@lookforpackagename{15}%
1550 \LWR@lookforpackagename{16}%
1551 \LWR@lookforpackagename{17}%
1552 \LWR@lookforpackagename{18}%
1553 \LWR@lookforpackagename{19}%
1554 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1555 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1556   {%
1557     \PackageError{lwarp}{%
1558       You used:\MessageBreak
1559       \protect\usepackage[#1]{#2}\MessageBreak
1560       Braces in the package options will fail with Lwarp.\MessageBreak
1561       Instead, use:\MessageBreak
1562       \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1563       \protect\usepackage{#2}\MessageBreak
1564       near the line number given below.\MessageBreak
1565       Enter 'h' for more info%
1566     }%
1567   {%
1568     See the Lwarp manual troubleshooting index entry for\MessageBreak
1569     ‘package, options with braces’%
1570   }%
1571 }%
1572 {}% no brace

```

\RequirePackage depending on the options and version:

```

1573 \IfValueTF{#1}%
1574 {% options given
1575   \IfValueTF{#3}% version given?
1576     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1577     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1578 }%
1579 {% no options given
1580   \IfValueTF{#3}% version given?
1581     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1582     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1583 }%
1584 }
1585 \LetLtxMacro\usepackage\RequirePackage

```

```
1586 \@onlypreamble\RequirePackage
1587 \@onlypreamble\usepackage
```

```
1588 \end{warppall}
```

**for HTML output:** 1589 \begin{warppHTML}

```
\LWR@ProvidesPackagePass {<pkgname>} [<version>]
```

Uses the original package, including options.

```
1590 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1591   \PackageInfo{lwarp}{%
1592     Using package ‘#1’,\MessageBreak
1593     and adding lwarp modifications, including options,\MessageBreak%
1594   }%
1595   \IfValueTF{#2}%
1596     {\ProvidesPackage{lwarp-#1}[#2]}%
1597     {\ProvidesPackage{lwarp-#1}}%
1598   \DeclareOption*{%
1599     \PassOptionsToPackage{CurrentOption}{#1}%
1600   }%
1601   \ProcessOptions\relax%
```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```
1602   \IfPackageLoadedTF{#1}{%
1603     \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1604     \IfValueTF{#2}%
1605       {%
1606         \expandafter\LWR@origRequirePackage%
1607         \expandafter[\LWR@tempone]{#1}[#2]%
1608       }%
1609       {%
1610         \expandafter\LWR@origRequirePackage%
1611         \expandafter[\LWR@tempone]{#1}%
1612       }%
1613   }{%
1614     \IfValueTF{#2}%
1615       {\LWR@origRequirePackage{#1}[#2]}%
1616       {\LWR@origRequirePackage{#1}}%
1617   }%
```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```
1618   \DeclareOption*{%
1619     \ProcessOptions\relax%
1620 }
```

```
\LWR@ProvidesPackageDropA {<name>} {<date or -NoValue->}
```

Declares the package. Factored for reuse.

```

1621 \newcommand*\LWR@ProvidesPackageDropA}[2]{%
1622   \PackageInfo{lwarp}{%
1623     Replacing package ‘#1’ with the lwarp version,\MessageBreak
1624     and discarding options,%
1625   }%
1626   \IfValueTF{#2}
1627   {\ProvidesPackage{lwarp-#1}[#2]}
1628   {\ProvidesPackage{lwarp-#1}}
1629 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1630 \newcommand*\LWR@ProvidesPackageDropB}{%
1631 % \ProcessOptions\relax% original LaTeX code
1632 \let\ds@\empty%      from the original \ProcessOptions
1633 \edef\@curroptions{}% lwarp modification to \ProcessOptions
1634 \@processoptions\relax% from the original \ProcessOptions
1635 }

```

`\LWR@ProvidesPackageDrop` `{\langle pkgname \rangle} [\langle version \rangle]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```

1636 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{

```

Declare the package:

```

1637 \LWR@ProvidesPackageDropA{#1}{#2}

```

Ignore all options:

```

1638 \DeclareOption*{}

```

Process the options:

```

1639 \LWR@ProvidesPackageDropB
1640 }

```

```

1641 \end{warpHTML}

```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** `1642 \begin{warpall}`

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

```

1643 \newwrite\LWR@quickfile%

```



```
1644 \end{warpall}
```

**for HTML output:** 1645 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1646 \newwrite\LWR@lateximagesfile
```

```
1647 \end{warpHTML}
```

### 33 Include a file

During HTML output, `\include{<filename>}` causes the following to occur:

1. `lwarp` creates `<filename>_html_inc.tex` whose contents are:
 

```
\input <filename>.tex
```
2. `<filename>_html_inc.tex` is then `\included` instead of `<filename>.tex`.
3. `<filename>_html_inc.aux` is automatically generated and used by L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1648 \begin{warpHTML}

\@include {<filename>} Modified to load \_html\_inc files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```
1649 \def\@include#1 {%
1650 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1651 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1652 \immediate\closeout\LWR@quickfile% lwarp
1653 \LWR@maybe@orignewpage% changed from clearpage
1654 \if@filesw
1655   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1656 \fi
1657 \@tempswatru
1658 \if@partsw
1659   \@tempswafalse
1660   \edef\reserved@a{#1}%
1661   \@for\reserved@a:=\@partlist\do
1662   {\ifx\reserved@a\reserved@b\@tempswatru\fi}%
1663 \fi
1664 \if@tempswa
1665   \let\@auxout\@partaux
1666   \if@filesw
1667     \immediate\openout\@partaux #1_html_inc.aux % changed
1668     \immediate\write\@partaux{\relax}%
1669   \fi
1670   \input{#1_html_inc.tex}% changed
1671   \LWR@maybe@orignewpage% changed from clearpage
1672   \writeckpt{#1}%
1673   \if@filesw
1674     \immediate\closeout\@partaux
```

```

1675 \fi
1676 \else
1677 \deadcycles\z@
1678 \@nameuse{cp@#1}%
1679 \fi
1680 \let\@auxout\@mainaux%
1681 }

1682 \end{warpHTML}

```

## 34 Copying a file

**for HTML output:** 1683 \begin{warpHTML}

`\LWR@copyfile` {*<source filename>*} {*<destination filename>*}

Used to copy the .toc file to .sidetoc to re-print the TOC in the sideroc navigation pane.

```

1684 \newwrite\LWR@copyoutfile % open the file to write to
1685 \newread\LWR@copyinfile % open the file to read from
1686
1687 \newcommand*{\LWR@copyfile}[2]{%
1688 \LWR@traceinfo{LWR@copyfile: copying #1 to #2}
1689
1690 \immediate\openout\LWR@copyoutfile=#2
1691 \openin\LWR@copyinfile=#1
1692 \begingroup\endlinechar=-1
1693 \makeatletter
1694
1695 \LWR@traceinfo{LWR@copyfile: about to loop}
1696
1697 \loop\unless\ifeof\LWR@copyinfile
1698 \LWR@traceinfo{LWR@copyfile: one line}
1699 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1700 % \LWR@fileline\par % print the content into the pdf
1701 % print the content:
1702 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1703 \repeat
1704 \immediate\closeout\LWR@copyoutfile
1705 \LWR@traceinfo{LWR@copyfile: done}
1706 \endgroup
1707 }

1708 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracinglwarp
```

**for HTML & PRINT:** 1709 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
1710 \newbool{LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
1711 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

\LWR@traceinfo {<text>} If tracing is turned on, writes the text to the .log file.

```
1712 \newcommand{\LWR@traceinfo}[1]{%
1713 \ifbool{LWR@tracinglwarp}%
1714 {%
1715   \typeout{*** lwarp: #1}%
1716 }%
1717 {}%
1718 }
```

Bool HTMLDebugComments Add comments in HTML about closing <div>s, sections, etc.

Default: false

```
1719 \newbool{HTMLDebugComments}
1720 \boolfalse{HTMLDebugComments}
```

If \tracinglwarp, show where preamble hooks occur:

```
1721 \AfterEndPreamble{
1722 \LWR@traceinfo{AfterEndPreamble}
1723 }
1724
1725 \AtBeginDocument{
1726 \LWR@traceinfo{AtBeginDocument}
1727 }
```

```
1728 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and may also be of some use for package authors to adapt their packages for `lwarp`. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by `LATEX` and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print

version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using.

**For a preexisting environment:** The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}{...}

\LWR@formattedenv{name}
\end{warpHTML}
```

**For a new macro or environment:** The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```
\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\formattedenv`.

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.

- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.
- Since the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

⚠ Misplaced `\omit` error

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

**for HTML output:** 1729 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1730 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname` `{<name>}`

```
1731 \newcommand*{\LWR@formatted@checkname}[1]{%
1732   \ifcsundef{#1}{%
1733     \ifcsundef{\LWR@print@#1}{%
1734       \PackageError{lwarp}
1735         {%
1736           \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1737             must be defined before using \protect\LWR@formatted, etc%
1738         }
1739         {Perhaps #1 is misspelled.}
1740     }{\relax}%
1741 }{\relax}%
1742 \ifcsundef{\LWR@HTML@#1}{%
1743   \PackageError{lwarp}
1744     {%
1745       \protect\LWR@HTML@#1 must be defined
1746         before using \protect\LWR@formatted, etc%
1747     }
1748     {Perhaps #1 is misspelled.}
1749 }{\relax}%
1750 }
```

`\LWR@formatted@checkendname` {<*name*>}

```

1751 \newcommand*{\LWR@formatted@checkendname}[1]{%
1752     \ifcsundef{end#1}{%
1753         \ifcsundef{endLWR@print@#1}{%
1754             \PackageError{lwarp}
1755                 {%
1756                     \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1757                     must be defined before using \protect\LWR@formatted, etc%
1758                 }
1759                 {Perhaps #1 is misspelled.}
1760             }\relax}%
1761     }\relax}%
1762 \ifcsundef{endLWR@HTML@#1}{%
1763     \PackageError{lwarp}
1764     {%
1765         \protect\endLWR@HTML@#1 must be defined
1766         before using \protect\LWR@formatted, etc%
1767     }
1768     {Perhaps #1 is misspelled.}
1769 }\relax}%
1770 }
```

`\LWR@formatted` {<*macroname*>} No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1771 \newcommand*{\LWR@formatted}[1]{%
1772     \LWR@formatted@checkname{#1}%
1773     \ifcsundef{LWR@print@#1}{%
1774         \csNewCommandCopycs{LWR@print@#1}{#1}%
1775     }{%
1776     \ifcsundef{#1}{%
1777         \expandafter\newrobustcmd\csname #1\endcsname{%
1778             \@nameuse{LWR@\LWR@formatting @#1}%
1779         }%
1780     }{%
1781         \expandafter\renewrobustcmd\csname #1\endcsname{%
1782             \@nameuse{LWR@\LWR@formatting @#1}%
1783         }%
1784     }%
1785 }
```

`\LWR@expandableformatted` {<*macroname*>} No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1786 \newcommand*{\LWR@expandableformatted}[1]{%
1787     \LWR@formatted@checkname{#1}%
1788     \ifcsundef{LWR@print@#1}{%
1789         \csNewCommandCopycs{LWR@print@#1}{#1}%
1790     }{%
1791     \ifcsundef{#1}{%
1792         \expandafter\newcommand\csname #1\endcsname{%
1793             \@nameuse{LWR@\LWR@formatting @#1}%
1794         }%
1795     }
```

```

1795   }{%
1796     \expandafter\renewcommand\csname #1\endcsname{%
1797       \@nameuse{LWR@LWR@formatting @#1}%
1798     }%
1799   }%
1800 }

```

`\LWR@formattedenv` {*<environmentname>*}

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is print or HTML.

```

1801 \newcommand*\LWR@formattedenv}[1]{%
1802   \LWR@formatted@checkname{#1}%
1803   \LWR@formatted@checkendname{#1}%
1804   \ifcsundef{LWR@print@#1}{%
1805     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1806   }{%
1807   \DeclareDocumentEnvironment{#1}{}%
1808   {%
1809     \@nameuse{LWR@LWR@formatting @#1}%
1810   }%
1811   {%
1812     \@nameuse{endLWR@LWR@formatting @#1}%
1813   }%
1814 }

```

`\LWR@expandableformattedenv` {*<environmentname>*}

An expandable version of `LWR@formattedenv`.

```

1815 \newcommand*\LWR@expandableformattedenv}[1]{%
1816   \LWR@formatted@checkname{#1}%
1817   \LWR@formatted@checkendname{#1}%
1818   \ifcsundef{LWR@print@#1}{%
1819     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1820   }{%
1821   \DeclareExpandableDocumentEnvironment{#1}{}%
1822   {%
1823     \@nameuse{LWR@LWR@formatting @#1}%
1824   }%
1825   {%
1826     \@nameuse{endLWR@LWR@formatting @#1}%
1827   }%
1828 }

```

```
1829 \end{warpHTML}
```

Print versions.

**for PRINT output:** 1830 `\begin{warpprint}`

```

1831 \newcommand*\LWR@formatted}[1]{}
1832 \newcommand*\LWR@expandableformatted}[1]{}
1833 \newcommand*\LWR@formattedenv}[1]{}
1834 \newcommand*\LWR@expandableformattedenv}[1]{}

```

```
1835 \end{warpprint}
```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1836 \begin{warppall}

### 37.1 User-level controls

Bool `FormatEPUB` Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

Default: false

```
1837 \newbool{FormatEPUB}
1838 \boolfalse{FormatEPUB}
```

Bool `FormatWP` Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

Default: false

```
1839 \newbool{FormatWP}
1840 \boolfalse{FormatWP}
```

Bool `WPMarkFloats` Adds

Default: false

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1841 \newbool{WPMarkFloats}
1842 \boolfalse{WPMarkFloats}
```

Bool `WPMarkMinipages` Adds

Default: false

```
=== begin minipage ===
. . .
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1843 \newbool{WPMarkMinipages}
1844 \boolfalse{WPMarkMinipages}
```

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.



Bool	WPMarkTOC	<p>While formatting for word processors, adds</p> <p><i>Default: true</i></p> <pre>=== table of contents ===</pre> <p>where the Table of Contents would have been. This helps identify where to insert the actual toc.</p> <p><i>If set false, the actual toc is printed instead.</i></p> <pre>1845 \newbool{WPMarkTOC} 1846 \booltrue{WPMarkTOC}</pre>
Bool	WPMarkLOFT	<p>While formatting for word processors, adds</p> <p><i>Default: false</i></p> <pre>=== list of figures === and/or === list of tables ===</pre> <p>where each of these lists would have been. This helps identify where to insert the actual lists.</p> <p><i>If set false, the actual lists are printed instead.</i></p> <pre>1847 \newbool{WPMarkLOFT} 1848 \boolfalse{WPMarkLOFT}</pre>
Bool	WPMarkMath	<p>While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the <i>LibreOffice Writer TeXMaths</i> extension.</p> <p><i>Default: false</i></p> <pre>1849 \newbool{WPMarkMath} 1850 \boolfalse{WPMarkMath}</pre>
Bool	WPTitleHeading	<p>While formatting for word processors, true sets the document title to &lt;h1&gt;, which is expected for HTML documents, but also causes the lower-level section headings to start at <b>Heading 2</b> when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at <b>Heading 1</b>.</p> <p>See table 11 on page 185.</p> <p><i>Default: false</i></p> <pre>1851 \newbool{WPTitleHeading} 1852 \boolfalse{WPTitleHeading}  1853 \end{warpall}</pre>

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1854 \begin{warpHTML}

```
1855 \AtBeginDocument{
```

```

1856 \ifbool{FormatWP}{
1857 \@ifundefined{chapter}{
1858 \ifbool{WPTitleHeading}{% part and section starting at h2
1859 \renewcommand*\LWR@tagtitle}{h1}
1860 \renewcommand*\LWR@tagtitleend}{/h1}
1861 \renewcommand*\LWR@tagpart}{h2}
1862 \renewcommand*\LWR@tagpartend}{/h2}
1863 \renewcommand*\LWR@tagsection}{h3}
1864 \renewcommand*\LWR@tagsectionend}{/h3}
1865 \renewcommand*\LWR@tagsubsection}{h4}
1866 \renewcommand*\LWR@tagsubsectionend}{/h4}
1867 \renewcommand*\LWR@tagsubsubsection}{h5}
1868 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1869 \renewcommand*\LWR@tagparagraph}{h6}
1870 \renewcommand*\LWR@tagparagraphend}{/h6}
1871 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1872 \renewcommand*\LWR@tagsubparagraphend}{/span}
1873 }% WPTitleHeading
1874 {% not WPTitleHeading, part and section starting at h1
1875 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1876 \renewcommand*\LWR@tagtitleend}{/div}
1877 \renewcommand*\LWR@tagpart}{h1}
1878 \renewcommand*\LWR@tagpartend}{/h1}
1879 \renewcommand*\LWR@tagsection}{h2}
1880 \renewcommand*\LWR@tagsectionend}{/h2}
1881 \renewcommand*\LWR@tagsubsection}{h3}
1882 \renewcommand*\LWR@tagsubsectionend}{/h3}
1883 \renewcommand*\LWR@tagsubsubsection}{h4}
1884 \renewcommand*\LWR@tagsubsubsectionend}{/h4}
1885 \renewcommand*\LWR@tagparagraph}{h5}
1886 \renewcommand*\LWR@tagparagraphend}{/h5}
1887 \renewcommand*\LWR@tagsubparagraph}{h6}
1888 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1889 }% not WPTitleHeading
1890 }% chapter undefined
1891 {% chapter defined
1892 \ifbool{WPTitleHeading}{}
1893 {% not WPTitleHeading, part and chapter starting at h1
1894 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1895 \renewcommand*\LWR@tagtitleend}{/div}
1896 \renewcommand*\LWR@tagpart}{h1}
1897 \renewcommand*\LWR@tagpartend}{/h1}
1898 \renewcommand*\LWR@tagchapter}{h2}
1899 \renewcommand*\LWR@tagchapterend}{/h2}
1900 \renewcommand*\LWR@tagsection}{h3}
1901 \renewcommand*\LWR@tagsectionend}{/h3}
1902 \renewcommand*\LWR@tagsubsection}{h4}
1903 \renewcommand*\LWR@tagsubsectionend}{/h4}
1904 \renewcommand*\LWR@tagsubsubsection}{h5}
1905 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1906 \renewcommand*\LWR@tagparagraph}{h6}
1907 \renewcommand*\LWR@tagparagraphend}{/h6}
1908 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1909 \renewcommand*\LWR@tagsubparagraphend}{/span}
1910 }% not WPTitleHeading
1911 }% chapter defined
1912 }{}% FormatWP
1913 }% AtBeginDocument

1914 \end{warpHTML}

```

## 38 Remembering original formatting macros

for HTML output: 1915 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `lateximage` environment and inside a `tabbing` environment. Also nullify unused commands.

Some packages redefine `\#`, which is used to generate HTML, so the original must be remembered here.

```
1916 \chardef\LWR@origpound='#
```

```
1917 \let\LWR@origcomma\,
1918 \let\LWR@origtilde~
1919 \let\LWR@origfil\hfil
1920 \let\LWR@orighss\hss
1921 \let\LWR@origllap\llap
1922 \let\LWR@origrlap\rlap
1923 \let\LWR@origfilneg\hfilneg
1924 \let\LWR@origspace\hspace
1925
1926 \let\LWR@origrule\rule
1927
1928 \let\LWR@origmedskip\medskip
1929 \let\LWR@origbigskip\bigskip
```

`libertinus-otf` has too much kerning for `\textquotedbl`, causing an extra space.

```
1930 \LetLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1931 \LetLtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
1932
1933 \AtEndPreamble{
1934 \IfPackageLoadedTF{libertinus-otf}{
1935   \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1936   \LetLtxMacro\textquotedbl\LWR@orig@textquotedbl
1937 }{ }
1938 }

1939 \LetLtxMacro\LWR@origttfamily\ttfamily
1940
1941 \LetLtxMacro\LWR@origem\em
1942
1943 \LetLtxMacro\LWR@orignormalfont\normalfont
1944
1945 \let\LWR@origonecolumn\onecolumn
1946
1947 \let\LWR@origsp\sp
1948 \let\LWR@origsb\sb
1949
1950 \LetLtxMacro\LWR@origunderline\underline

1951 \let\LWR@orignewpage\newpage
1952
1953 \let\LWR@origpagestyle\pagestyle
1954 \let\LWR@origthispagestyle\thispagestyle
```

```

1955 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1956
1957 \let\LWR@orignewline\newline
1958
1959 \AtBeginDocument{% in case packages change definition
1960 \let\LWR@orig@trivlist\trivlist
1961 \let\LWR@origtrivlist\trivlist
1962 \let\LWR@origendtrivlist\endtrivlist
1963 \LetLtxMacro\LWR@origitem\item
1964 \LetLtxMacro\LWR@origitemize\itemize
1965 \LetLtxMacro\LWR@endorigitemize\enditemize
1966 \LetLtxMacro\LWR@origenumerate\enumerate
1967 \LetLtxMacro\LWR@endorigenumerate\endenumerate
1968 \LetLtxMacro\LWR@origdescription\description
1969 \LetLtxMacro\LWR@endorigdescription\enddescription
1970 \let\LWR@orig@mklab\@mklab
1971 \let\LWR@origmakeLabel\makeLabel
1972 \let\LWR@orig@donoparitem\@donoparitem
1973 \LetLtxMacro\LWR@orig@item\@item
1974 \let\LWR@orig@nbitem\@nbitem
1975 }
1976
1977 \let\LWR@origpar\par
1978
1979 \LetLtxMacro\LWR@origfootnote\footnote
1980 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1981
1982
1983 \AtBeginDocument{% in case packages change definition
1984 \LetLtxMacro\LWR@origHline\Hline%
1985 \LetLtxMacro\LWR@origcline\cline%
1986 }

1987 \end{warpHTML}

```

## 39 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as `\`` and `\v` instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 1988 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
1989 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
1990 \LetLtxMacro\LWR@origtie\t
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```

1991 \ifPDFTeX% pdflatex or dvi latex
1992 \LetLtxMacro\LWR@origgraveaccent\‘
1993 \LetLtxMacro\LWR@origacuteaccent\’
1994 \LetLtxMacro\LWR@origcircumflexaccent\^
1995 \LetLtxMacro\LWR@origtildeaccent\~
1996 \LetLtxMacro\LWR@origmacronaccent\=
1997 \LetLtxMacro\LWR@origbreve\u
1998 \LetLtxMacro\LWR@origdotaccent\.
1999 \LetLtxMacro\LWR@origdiaeresisaccent\"
2000 \LetLtxMacro\LWR@origdoubleacuteaccent\H
2001 \LetLtxMacro\LWR@origcaronaccent\v
2002 \LetLtxMacro\LWR@origdotbelowaccent\d
2003 \LetLtxMacro\LWR@origcedillaaccent\c
2004 \LetLtxMacro\LWR@origmacronbelowaccent\b

```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```

2005 \renewcommand*\‘[1]{#1\HTMLUnicode{0300}}
2006 \renewcommand*\’[1]{#1\HTMLUnicode{0301}}
2007 \renewcommand*\^[1]{#1\HTMLUnicode{0302}}
2008 \renewcommand*\~[1]{#1\HTMLUnicode{0303}}
2009 \renewcommand*\=[1]{#1\HTMLUnicode{0304}}
2010 \renewcommand*\u[1]{#1\HTMLUnicode{0306}}
2011 \renewcommand*\.[1]{#1\HTMLUnicode{0307}}
2012 \renewcommand*\"[1]{#1\HTMLUnicode{0308}}
2013 \renewcommand*\H[1]{#1\HTMLUnicode{030B}}
2014 \renewcommand*\v[1]{#1\HTMLUnicode{030C}}
2015 \renewcommand*\d[1]{#1\HTMLUnicode{0323}}
2016 \renewcommand*\c[1]{#1\HTMLUnicode{0327}}
2017 \renewcommand*\b[1]{#1\HTMLUnicode{0331}}
2018 \fi

```

For all engines, a Unicode diacritical tie is used:

```

2019 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
2020 \renewcommand*\t[1]{\LWR@t#1}

```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a lateximage is begun.

```

2021 \ifPDFTeX% pdflatex or dvi latex
2022 \newcommand*\LWR@restoreorigaccents{%
2023   \LetLtxMacro\‘\LWR@origgraveaccent%
2024   \LetLtxMacro\’\LWR@origacuteaccent%
2025   \LetLtxMacro\^\LWR@origcircumflexaccent%
2026   \LetLtxMacro\~\LWR@origtildeaccent%
2027   \LetLtxMacro\=\LWR@origmacronaccent%
2028   \LetLtxMacro\u\LWR@origbreve%
2029   \LetLtxMacro\.\LWR@origdotaccent%
2030   \LetLtxMacro\" \LWR@origdiaeresisaccent%
2031   \LetLtxMacro\H\LWR@origdoubleacuteaccent%
2032   \LetLtxMacro\v\LWR@origcaronaccent%
2033   \LetLtxMacro\t\LWR@origtie%
2034   \LetLtxMacro\d\LWR@origdotbelowaccent%
2035   \LetLtxMacro\c\LWR@origcedillaaccent%
2036   \LetLtxMacro\b\LWR@origmacronbelowaccent%

```

```

2037 }%
2038 \else% XeLaTeX, LuaLaTeX:
2039 \newcommand*\LWR@restoreorigaccents{%
2040   \LetLtxMacro\t\LWR@origtie%
2041 }%
2042 \fi%
2043 }% AtBeginDocument

2044 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a pstool image. pstool uses an additional compile for each image using the original document's preamble, which includes lwarp, so the lwarp configuration files are turned off if -pstool is part of the \jobname.

Default to no configuration files:

```
2045 \LWR@excludecomment{\LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not -pstool:

**for PRINT output:**

```

2046 \begin{warpprint}
2047 \fullexpandarg%
2048 \IfSubStr*\jobname}{-pstool}
2049   {
2050     \PackageInfo{lwarp}{%
2051       Jobname with -pstool is found.\MessageBreak
2052       Not generating lwarp configuration files,%
2053     }
2054   }
2055   {
2056     \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2057     \LWR@includecomment{\LWRwriteconf}{writeconf}
2058   }
2059 \end{warpprint}

```

### 40.2 <project>\_html.tex

Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

2060 \begin{LWRwriteconf}
2061 \immediate\openout\LWR@quickfile=\jobname_html.tex
2062 \immediate\write\LWR@quickfile{%
2063 \detokenize{\PassOptionsToPackage}%
2064 {warpHTML,BaseJobname=\jobname}{lwarp}%
2065 }
2066 \immediate\write\LWR@quickfile{%
2067 \detokenize{\input}\string{\jobname.tex}\string }%
2068 }
2069 \immediate\closeout\LWR@quickfile
2070 \end{LWRwriteconf}

```

### 40.3 *lwarpmk* configuration files

**Config file:** 2071 \begin{LWRwriteconf}

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

2072 \newcommand\*{\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua

#### 40.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```
2073 \ifshellescape
2074   \def\LWR@shellescapecmd{--shell-escape }
2075 \else
2076   \def\LWR@shellescapecmd{}
2077 \fi
```

`\LWR@compilecmd`  $\{\langle engine \rangle\} \{\langle suffix \rangle\}$

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdflatex*, etc. Suffix is empty or `_html`

```
2078 \newcommand*{\LWR@compilecmd}[2]{%
2079   #1 \LWR@shellescapecmd \jobname#2%
2080 }
```

`\LWR@addcompilecmd`  $\{\langle cmd \rangle\} \{\langle suffix \rangle\}$

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
2081 \newcommand*{\LWR@addcompilecmd}[2]{%
2082   \LWRopseq
2083   #1 \jobname#2%
2084 }
```

`\LWR@unknownengine` Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2085 \newcommand*{\LWR@unknownengine}{%
2086   \PackageError{lwarp}%
2087     {Unknown LaTeX engine}%
2088     {%
2089       Lwarp only knows about pdflatex, DVI latex,
2090       xelatex, lualatex, and upLATEX.%
2091     }%
2092 }
```

`\LWR@latexmkvar`  $\{\langle varname \rangle\} \{\langle value \rangle\}$

Adds a *latexmk* variable assignment.

```
2093 \newcommand*{\LWR@latexmkvar}[2]{%
2094     -e
2095     \LWRopquote%
2096     \LWRdollar #1=q/#2/%
2097     \LWRopquote
2098 }
```

`\LWR@latexmkcmd` {*<latexmk options>*}

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
2099 \newcommand*{\LWR@latexmkcmd}[1]{%
2100     latexmk \space \LWR@shellescapecmd \space #1 \space
2101     -recorder \space
2102     \LWR@latexmkvar{makeindex}{\LWR@latexmkIndexCmd}%
2103 }
```

`\LWR@latexmkdvipdfm` {*<dvipdfm or dvipdfmx>*}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2104 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
2105     -pdfdvi \space
2106     \LWR@latexmkvar{dvipdf}{%
2107         #1
2108         \@percentchar 0
2109         -o \@percentchar D
2110         \@percentchar S%
2111     }
2112 }
```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with *ujarticle* or related classes.

```
2113 \newcommand*{\LWR@compileuplatex}{
2114     \def\LWR@tempprintlatexcmd{%
2115         \LWR@compilecmd{uplatex}}{}
2116     \LWR@addcompilecmd{dvipdfmx}{}
2117 }
2118 \def\LWR@tempHTMLlatexcmd{%
2119     \LWR@compilecmd{uplatex}{_html}
2120     \LWR@addcompilecmd{dvipdfmx}{_html}
2121 }
2122 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source to PDF form.  
`\LWR@HTMLLatexCmd`

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

---



---

```
[[latexmk -xelatex --shell-escape -recorder
  -e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvi-pdf=q/dvipdfmx %0 -o %D %S/'
  -recorder
  -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2123 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2124   \ifpdf
```

For *latexmk* with *pdflatex*:

```
2125       \ifPDFTeX
2126         \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2127       \else
```

For *latexmk* with *lualatex*:

```
2128       \ifLuaTeX
2129         \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2130       \else
2131         \LWR@unknownengine
2132       \fi
2133     \fi
2134   \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2135     \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2136       \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2137     \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2138       \ifbool{LWR@dvipdfm}{
2139         \def\LWR@latexcmd{%
2140           \LWR@latexmkcmd{%
2141             \LWR@latexmkdvi-pdfm{dvipdfm}%
2142           }
2143         }
2144       }{
2145         \ifbool{LWR@dvipdfmx}{
2146           \def\LWR@latexcmd{%
```

```

2147             \LWR@latexmkcmd{%
2148             \LWR@latexmkdvipdfm{dvipdfmx}%
2149             }
2150         }
2151     }{
2152         \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2153     }
2154 }
2155 \fi
2156 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2157 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2158 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2159}% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2160{% not latexmk
2161 \ifpdf

```

For *pdflatex* or *lualatex*:

```

2162 \ifPDFTeX

```

For *pdflatex*:

```

2163 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2164 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2165 \else
2166 \ifLuaTeX

```

For *lualatex*:

```

2167 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2168 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2169 \else
2170 \LWR@unknownengine
2171 \fi
2172 \fi
2173 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2174 \ifXeTeX

```

For *xelatex*:

```

2175 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2176 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2177 \else

```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```

2178 \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfm*:

```

2179         \def\LWR@tempprintlatexcmd{%
2180             \LWR@compilecmd{latex}{}
2181             \LWR@addcompilecmd{dvipdfm}{}
2182         }
2183         \def\LWR@tempHTMLlatexcmd{%
2184             \LWR@compilecmd{latex}{_html}
2185             \LWR@addcompilecmd{dvipdfm}{_html}
2186         }
2187     }{
2188         \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfmx*:

```

2189         \def\LWR@tempprintlatexcmd{%
2190             \LWR@compilecmd{latex}{}
2191             \LWR@addcompilecmd{dvipdfmx}{}
2192         }
2193         \def\LWR@tempHTMLlatexcmd{%
2194             \LWR@compilecmd{latex}{_html}
2195             \LWR@addcompilecmd{dvipdfmx}{_html}
2196         }
2197     }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

2198         \def\LWR@tempprintlatexcmd{%
2199             \LWR@compilecmd{latex}{}
2200             \LWR@addcompilecmd{dvips}{}
2201             \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSARENCY}{} .ps
2202         }
2203         \def\LWR@tempHTMLlatexcmd{%
2204             \LWR@compilecmd{latex}{_html}
2205             \LWR@addcompilecmd{dvips}{_html}
2206             \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSARENCY}{_html}.ps
2207         }
2208     }
2209 }
2210 \fi% \ifXeTeX
2211 \fi% \ifpdf
2212 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up $\LaTeX$  and *dvipdfmx*:

```

2213 \IfClassLoadedTF{ujarticle}{\LWR@compileuplatex}{}
2214 \IfClassLoadedTF{ujbook}{\LWR@compileuplatex}{}
2215 \IfClassLoadedTF{ujreport}{\LWR@compileuplatex}{}
2216 \IfClassLoadedTF{utarticle}{\LWR@compileuplatex}{}
2217 \IfClassLoadedTF{utbook}{\LWR@compileuplatex}{}
2218 \IfClassLoadedTF{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2219 \ifdefempty{\LWR@PrintLatexCmd}{
2220     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2221 }{}
2222 \ifdefempty{\LWR@HTMLLatexCmd}{
2223     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}

```

```
2224 }{}
```

```
\LWR@writeconf {<filename>}
```

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```
2225 \newcommand{\LWR@writeconf}[1]{
2226 \ifcsdef{\LWR@quickfile}{\newwrite{\LWR@quickfile}}
2227 \immediate\openout\LWR@quickfile=#1
2228 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpcnfversion]]}
2229 \ifbool{usingOSWindows}{
2230   \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2231 }{
2232   \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2233 }
2234 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2235 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2236 \immediate\write\LWR@quickfile{htmlfilename = [[HTMLFilename]]}
2237 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2238 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2239 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
2240 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2241 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2242 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2243 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2244 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2245 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2246 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2247 \immediate\closeout\LWR@quickfile
2248 }
2249

2250 \end{\LWRwriteconf}
```

### 40.3.2 lwarpmk.conf

File `lwarpmk.conf`

`lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project>.tex`, or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility *lwarpmk*.

**Config file:**

```
2251 \begin{\LWRwriteconf}
2252
2253 \AtBeginDocument{\LWR@writeconf{\lwarpmk.conf}}
2254
2255 \end{\LWRwriteconf}
```

### 40.3.3 <project>.lwarpmkconf

File `project.lwarpmkconf`

A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

```

Config file: 2256 \begin{LWRwriteconf}
                2257
                2258 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
                2259
                2260 \end{LWRwriteconf}

```

## 40.4 lwarp.css

File lwarp.css

This is the base CSS layer used by lwarp.

This must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 2261 \begin{LWRwriteconf}
                2262 \begin{filecontents*}[overwrite]{lwarp.css}
                2263 /*
                2264  CSS stylesheet for the LaTeX Lwarp package
                2265  Copyright 2016-2022 Brian Dunn – BD Tech Concepts LLC
                2266 */
                2267
                2268
                2269 /* a fix for older browsers: */
                2270 header, section, footer, aside, nav, main,
                2271  article, figure { display: block; }
                2272
                2273
                2274 A:link {color:#000080 ; text-decoration: none ; }
                2275 A:visited {color:#800000 ; }
                2276 A:hover {color:#000080 ; text-decoration: underline ;}
                2277 A:active {color:#800000 ; }
                2278
                2279 a.tocbook {display: inline-block ; margin-left: 0em ;
                2280  font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
                2281 a.tocpart {display: inline-block ; margin-left: 0em ;
                2282  font-weight: bold ;}
                2283 a.tocchapter {display: inline-block ; margin-left: 0em ;
                2284  font-weight: bold ;}
                2285 a.tocsection {display: inline-block ; margin-left: 1em ;
                2286  text-indent: -.5em ; font-weight: bold ; }
                2287 a.tocsubsection {display: inline-block ; margin-left: 2em ;
                2288  text-indent: -.5em ; }
                2289 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
                2290  text-indent: -.5em ; }
                2291 a.tocparagraph {display: inline-block ; margin-left: 4em ;
                2292  text-indent: -.5em ; }
                2293 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
                2294  text-indent: -.5em ; }
                2295 a.tocfigure {margin-left: 0em}
                2296 a.tocsubfigure {margin-left: 2em}
                2297 a.toctable {margin-left: 0em}
                2298 a.tocsubtable {margin-left: 2em}
                2299 a.toctheorem {margin-left: 0em}
                2300 a.toclstlisting {margin-left: 0em}
                2301
                2302 body {
                2303  font-family: "DejaVu Serif", "Bitstream Vera Serif",
                2304  "Lucida Bright", Georgia, serif;
                2305  background: #FAF7F4 ;
                2306  color: black ;

```

```
2307     margin:0em ;
2308     padding:0em ;
2309     font-size: 100% ;
2310     line-height: 1.2 ;
2311 }
2312
2313 p {margin: 1.5ex 0em 1.5ex 0em ;}
2314 table p {margin: .5ex 0em .5ex 0em ;}
2315
2316 /* Holds a section number */
2317 span.sectionnumber { margin-right: 0em }
2318
2319 /* Inserted in front of index lines */
2320 span.indexitem {margin-left: 0em}
2321 span.indexsubitem {margin-left: 2em}
2322 span.indexsubsubitem {margin-left: 4em}
2323 div.indexheading {margin-top: 2ex ; font-weight: bold}
2324
2325 div.hidden, span.hidden { display: none ; }
2326
2327 kbd, span.texttt, p span.texttt {
2328     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2329         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2330         "Courier New", monospace;
2331     font-size: 100% ;
2332 }
2333
2334 pre { padding: 3pt ; }
2335
2336 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2337
2338 span.textit, div.textit, table td.tditshape { font-style: italic; }
2339
2340 table td.tdbfit { font-weight: bold ; font-style:italic }
2341
2342 span.textnormal, div.textnormal {
2343     font-weight: normal;
2344     font-style: normal;
2345     font-variant: normal;
2346     font-variant-numeric: normal ;
2347     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2348         "Lucida Bright", Georgia, serif;
2349 }
2350
2351 span.textmd, div.textmd { font-weight: normal; }
2352
2353 span.textup, div.textup {
2354     font-style: normal;
2355     font-variant: normal;
2356     font-variant-numeric: normal ;
2357 }
2358
2359 span.textsc, div.textsc {
2360     font-variant: small-caps;
2361     font-variant-numeric: oldstyle-nums ;
2362 }
2363
2364 span.textulc, div.textulc {
2365     font-variant: normal ;
2366     font-variant-numeric: normal ;
```

```
2367 }
2368
2369 span.textsl, div.textsl { font-style: oblique; }
2370
2371 span.textrm, div.textrm {
2372     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2373     "Lucida Bright", Georgia, serif;
2374 }
2375
2376 span.textsf, div.textsf {
2377     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2378     Geneva, Verdana, sans-serif ;
2379 }
2380
2381 /* nfssect-cfr lining figures */
2382 span.textln, div.textln {
2383     font-variant-numeric: lining-nums ;
2384 }
2385
2386 /* nfssect-cfr proportional figures */
2387 span.textp, div.textp {
2388     font-variant-numeric: proportional-nums ;
2389 }
2390
2391 /* nfssect-cfr tabular figures */
2392 span.textt, div.textt {
2393     font-variant-numeric: tabular-nums ;
2394 }
2395
2396 /* nfssect-cfr font weights */
2397 span.textdb, div.textdb {
2398     font-weight: 500 ;
2399 }
2400
2401 span.textsb, div.textsb {
2402     font-weight: 600 ;
2403 }
2404
2405 span.texteb, div.texteb {
2406     font-weight: 800 ;
2407 }
2408
2409 span.textub, div.textub {
2410     font-weight: 900 ;
2411 }
2412
2413 span.textlg, div.textlg {
2414     font-weight: 300 ;
2415 }
2416
2417 span.textel, div.textel {
2418     font-weight: 200 ;
2419 }
2420
2421 span.textul, div.textul {
2422     font-weight: 100 ;
2423 }
2424
2425
2426
```

```
2427 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2428
2429 span.underline {
2430     text-decoration: underline ;
2431     text-decoration-skip: auto ;
2432 }
2433
2434 span.overline {
2435     text-decoration: overline ;
2436     text-decoration-skip: auto ;
2437 }
2438
2439 div.hrule { border-top: 1px solid silver }
2440
2441
2442 /* for vertical text: */
2443 div.verticalrl { writing-mode: vertical-rl }
2444 div.horizontalTB { writing-mode: horizontal-tb }
2445
2446
2447 /* for diagbox */
2448 div.diagboxtitleN { border-bottom: 1px solid gray }
2449 div.diagboxtitleS { border-top: 1px solid gray }
2450
2451 div.diagboxE {
2452     padding-left: 2em ;
2453     text-align: right ;
2454 }
2455
2456 div.diagboxW {
2457     padding-right: 2em ;
2458     text-align: left ;
2459 }
2460
2461
2462
2463 /* For realscripts */
2464 .supsubscript {
2465     display: inline-block;
2466     text-align:left ;
2467 }
2468
2469 .supsubscript sup,
2470 .supsubscript sub {
2471     position: relative;
2472     display: block;
2473     font-size: .7em;
2474     line-height: 1;
2475 }
2476
2477 .supsubscript sup {
2478     top: .3em;
2479 }
2480
2481 .supsubscript sub {
2482     top: .3em;
2483 }
2484
2485 div.attribution p {
2486     text-align: right ;
```



```
2487     font-size: 80%
2488 }
2489
2490 span.poemtitle {
2491     font-size: 120% ; font-weight: bold;
2492 }
2493
2494 pre.tabbing {
2495     font-family: "Linux Libertine Mono O", "Lucida Console",
2496         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2497         "Liberation Mono", "FreeMono", "Andale Mono",
2498         "Nimbus Mono L", "Courier New", monospace;
2499 }
2500
2501 blockquote {
2502     display: block ;
2503     margin-left: 2em ;
2504     margin-right: 2em ;
2505 }
2506
2507 /* quotchap is for the quotchap package */
2508 div.quotchap {
2509     display: block ;
2510     font-style: oblique ;
2511     overflow-x: auto ;
2512     margin-left: 2em ;
2513     margin-right: 2em ;
2514 }
2515
2516 blockquote p, div.quotchap p {
2517     line-height: 1.5;
2518     text-align: left ;
2519     font-size: .85em ;
2520 }
2521
2522 /* qauthor is for the quotchap package */
2523 div.qauthor {
2524     display: block ;
2525     text-align: right ;
2526     margin-left: auto ;
2527     margin-right: 2em ;
2528     font-size: 80% ;
2529     font-variant: small-caps;
2530 }
2531
2532 div.qauthor p {
2533     text-align: right ;
2534 }
2535
2536 div.epigraph, div.dictum {
2537     line-height: 1.2;
2538     text-align: left ;
2539     padding: 3ex 1em 0ex 1em ;
2540 /*     margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2541     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2542 /*     margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2543     font-size: .85em ;
2544     max-width: 27em ;
2545 }
2546
```

```
2547 div.epigraphsource, div.dictumauthor {
2548     text-align:right ;
2549     margin-left:auto ;
2550 /*     max-width: 50% ; */
2551     border-top: 1px solid #A0A0A0 ;
2552     padding-bottom: 3ex ;
2553     line-height: 1.2;
2554 }
2555
2556 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2557 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2558 div.dictumauthor { font-style:italic }
2559
2560
2561 /* copyrightbox package: */
2562 div.copyrightbox { margin: .5ex .5em }
2563 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2564 div.copyrightboxnote {text-align: left ; font-size: 60%}
2565
2566
2567 /* lettrine package: */
2568 span.lettrine { font-size: 4ex ; float: left ; }
2569 span.lettrinetext { font-variant: small-caps ; }
2570
2571 /* ulem, soul, umoline packages: */
2572 span.uline {
2573     text-decoration: underline ;
2574     text-decoration-skip: auto ;
2575 }
2576
2577 span.uuline {
2578     text-decoration: underline ;
2579     text-decoration-skip: auto ;
2580     text-decoration-style: double ;
2581 }
2582
2583 span.uwave {
2584     text-decoration: underline ;
2585     text-decoration-skip: auto ;
2586     text-decoration-style: wavy ;
2587 }
2588
2589 span.sout {
2590     text-decoration: line-through ;
2591 }
2592
2593 span.oline {
2594     text-decoration: overline ;
2595     text-decoration-skip: auto ;
2596 }
2597
2598 span.xout {
2599     text-decoration: line-through ;
2600 }
2601
2602 span.dashuline {
2603     text-decoration: underline ;
2604     text-decoration-skip: auto ;
2605     text-decoration-style: dashed ;
2606 }
```

```
2607
2608 span.dotuline {
2609     text-decoration: underline ;
2610     text-decoration-skip: auto ;
2611     text-decoration-style: dotted ;
2612 }
2613
2614 span.letterspacing { letter-spacing: .2ex ; }
2615
2616 span.capsspacing {
2617     font-variant: small-caps ;
2618     letter-spacing: .1ex ;
2619 }
2620
2621 span.highlight { background: #F8E800 ; }
2622
2623
2624 /* keystone package: */
2625 span.keystone {
2626     border-style: outset ;
2627     padding: 0pt .5em 0pt .5em ;
2628 }
2629
2630
2631 html body {
2632     margin: 0 ;
2633     line-height: 1.2;
2634 }
2635
2636
2637 body div {
2638     margin: 0ex;
2639 }
2640
2641
2642 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2643 {
2644     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2645         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2646         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2647         "Times New Roman", serif;
2648     font-style: normal ;
2649     font-weight: bold ;
2650     text-align: left ;
2651 }
2652
2653 h1 { /* title of the entire website, used on each page */
2654     text-align: center ;
2655     font-size: 2.5em ;
2656     padding: .4ex 0em 0ex 0em ;
2657 }
2658
2659 div.book {
2660     text-align: center ;
2661     font-size: 2.325em ;
2662     padding: .4ex 0em 0ex 0em ;
2663 }
2664
2665 h2 { font-size: 2.25em }
2666 h3 { font-size: 2em }
```

```
2667 h4 { font-size: 1.75em }
2668 h5 { font-size: 1.5em }
2669 h6 { font-size: 1.25em }
2670 span.paragraph {font-size: 1em ; font-variant: normal ;
2671     margin-right: 1em ; }
2672 span.subparagraph {font-size: 1em ; font-variant: normal ;
2673     margin-right: 1em ; }
2674
2675 div.minisec {
2676     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2677         Geneva, Verdana, sans-serif ;
2678     font-style: normal ;
2679     font-weight: bold ;
2680     text-align: left ;
2681 }
2682
2683 h1 {
2684     margin: 0ex 0em 0ex 0em ;
2685     line-height: 1.3;
2686     text-align: center ;
2687 }
2688
2689 h2 {
2690     margin: 1ex 0em 1ex 0em ;
2691     line-height: 1.3;
2692     text-align: center ;
2693 }
2694
2695 h3 {
2696     margin: 3ex 0em 1ex 0em ;
2697     line-height: 1.3;
2698 }
2699
2700 h4 {
2701     margin: 3ex 0em 1ex 0em ;
2702     line-height: 1.3;
2703 }
2704
2705 h5 {
2706     margin: 3ex 0em 1ex 0em ;
2707     line-height: 1.3;
2708 }
2709
2710 h6 {
2711     margin: 3ex 0em 1ex 0em ;
2712     line-height: 1.3;
2713 }
2714
2715
2716 div.titlepage {
2717     text-align: center ;
2718 }
2719
2720 .footnotes {
2721     text-align: left ;
2722     font-size: .85em ;
2723     margin: 3ex 2em 0ex 2em ;
2724     border-top: 1px solid silver ;
2725 }
2726
```

```
2727 .marginpar, .marginparblock {
2728     max-width: 50%;
2729     float: right ;
2730     clear: both ;
2731     text-align: left ;
2732     margin: 1ex 0.5em 1ex 1em ;
2733     padding: 1ex 0.5em 1ex 0.5em ;
2734     font-size: 85% ;
2735     border-top: 1px solid silver ;
2736     border-bottom: 1px solid silver ;
2737     overflow-x: auto ;
2738 }
2739
2740 .marginpar br { margin-bottom: 2ex ; }
2741
2742 div.marginblock, div.marginparblock {
2743     max-width:50%;
2744     min-width: 10em; /* room for caption */
2745     float:right;
2746     text-align:left;
2747     margin: 1ex 0.5em 1ex 1em ;
2748     padding: 1ex 0.5em 1ex 0.5em ;
2749     overflow-x: auto;
2750 }
2751
2752 div.marginblock div.minipage,
2753 div.marginparblock div.minipage {
2754     display: inline-block ;
2755     margin: 0pt auto 0pt auto ;
2756 }
2757
2758 div.marginblock div.minipage p ,
2759 div.marginparblock div.minipage p
2760     { font-size: 85%}
2761
2762 div.marginblock br ,
2763 div.marginparblock br
2764     { margin-bottom: 2ex ; }
2765
2766 main.bodycontainer {
2767     float: left ;
2768     width: 80% ;
2769 }
2770
2771 div.bodywithoutsidetoc main.bodycontainer {
2772     float: none ;
2773     width: 100% ;
2774 }
2775
2776 section.textbody div.footnotes{
2777     margin: 1ex 2em 2ex 2em ;
2778     border-bottom: 2px solid silver ;
2779 }
2780
2781 .footnoteheader {
2782     border-top: 2px solid silver ;
2783     margin-top: 3ex ;
2784     padding-top: 1ex ;
2785     font-weight: bold ;
2786 }
```

```
2787
2788 .mpfootnotes {
2789     text-align: left ;
2790     font-size: .85em ;
2791     margin-left: 1em ;
2792     border-top: 1px solid silver ;
2793 }
2794
2795 /* Remove footnote top border in the title page. */
2796 div.titlepage div.mpfootnotes {
2797     border-top: none ;
2798 }
2799
2800
2801
2802 ul, ol {
2803     margin: 1ex 1em 1ex 0em;
2804     line-height: 1.2;
2805 }
2806
2807 body dir, body menu {
2808     margin: 3ex 1em 3ex 0em;
2809     line-height: 1.2;
2810 }
2811
2812 li { margin: 0ex 0em 1ex 0em; }
2813
2814 li.p { display: inline ; }
2815
2816 html {
2817     margin: 0;
2818     padding: 0;
2819 }
2820
2821 .programlisting {
2822     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2823         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2824         "Courier New", monospace;
2825     margin: 1ex 0ex 1ex 0ex ;
2826     padding: .5ex 0pt .5ex 0pt ;
2827     overflow-x: auto;
2828 }
2829
2830 section.textbody>pre.programlisting {
2831 border-top: 1px solid silver ;
2832 border-bottom: 1px solid silver ;
2833 }
2834
2835
2836 div.displaymath {
2837     text-align: center ;
2838 }
2839
2840 div.displaymathnumbered {
2841     text-align: right ;
2842     margin-left: 5% ;
2843     margin-right: 5% ;
2844     min-width: 2.5in ;
2845 }
2846
```

```
2847 @media all and (min-width: 400px) {
2848     div.displaymathnumbered {
2849         margin-left: 10% ;
2850         margin-right: 10% ;
2851     }
2852 }
2853
2854 @media all and (min-width: 800px) {
2855     div.displaymathnumbered {
2856         margin-right: 20% ;
2857     }
2858 }
2859
2860 @media all and (min-width: 1200px) {
2861     div.displaymathnumbered {
2862         margin-right: 30% ;
2863     }
2864 }
2865
2866
2867 .inlineprogramlisting {
2868     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2869         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2870         "Courier New", monospace;
2871     overflow-x: auto;
2872 }
2873
2874 span.listinglabel {
2875     display: inline-block ;
2876     font-size: 70% ;
2877     width: 4em ;
2878     text-align: right ;
2879     margin-right: 2em ;
2880 }
2881
2882 div.abstract {
2883     margin: 2em 5% 2em 5% ;
2884     padding: 1ex 1em 1ex 1em ;
2885     /* font-weight: bold ; */
2886     font-size: 90% ;
2887     text-align: left ;
2888 }
2889
2890 div.abstract dl {line-height:1.5;}
2891 div.abstract dt {color:#304070;}
2892
2893 div.abstracttitle{
2894     font-family: "URW Classico", Optima, "Linux Biolinum O",
2895         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2896         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2897     font-weight:bold;
2898     font-size:1.25em;
2899     text-align: center ;
2900 }
2901
2902 span.abstractrunintitle{
2903     font-family: "URW Classico", Optima, "Linux Biolinum O",
2904         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2905         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2906     font-weight:bold;
```

```
2907 }
2908
2909
2910 .verbatim {
2911     overflow-x: auto ;
2912 }
2913
2914 .alltt {
2915     overflow-x: auto ;
2916 }
2917
2918
2919 .bverbatim {
2920     margin: 1ex 0pt 1ex 0pt ;
2921     padding: .5ex 0pt .5ex 0pt ;
2922     overflow-x: auto ;
2923 }
2924
2925 .lverbatim {
2926     margin: 1ex 0pt 1ex 0pt ;
2927     padding: .5ex 0pt .5ex 0pt ;
2928     overflow-x: auto ;
2929 }
2930
2931 .fancyvrb {
2932     font-size:.85em ;
2933     margin: 3ex 0pt 3ex 0pt
2934 }
2935
2936 .fancyvrblabel {
2937     font-size: .85em ;
2938     text-align: center ;
2939     font-weight: bold ;
2940     margin-top: 1ex ;
2941     margin-bottom: 1ex ;
2942 }
2943
2944
2945 .verse {
2946     font-family: "Linux Libertine Mono O", "Lucida Console",
2947                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2948                 "Liberation Mono", "FreeMono", "Andale Mono",
2949                 "Nimbus Mono L", "Courier New", monospace;
2950     margin-left: 1em ;
2951 }
2952
2953
2954 div.singlespace { line-height: 1.2 ; }
2955 div.onehalfspace { line-height: 1.5 ; }
2956 div.doublespace { line-height: 2 ; }
2957
2958
2959 /* Word processor format output: */
2960 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2961 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2962 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2963
2964
2965
2966
```



```
2967 /* Minipage environments, vertically aligned to top, center, bottom: */
2968 .minipage, .fminipage, .fcolorminipage {
2969     /* display: inline-block ; */
2970     /* Mini pages which follow each other will be tiled. */
2971     text-align:left;
2972     margin: .25em .25em .25em .25em;
2973     padding: .25em .25em .25em .25em;
2974     display: inline-flex;
2975     flex-direction: column ;
2976     overflow: auto;
2977 }
2978
2979 .inlineminipage {
2980     display: inline-block ;
2981     text-align: left
2982 }
2983
2984 /* Paragraphs in the flexbox did not collapse their margins. */
2985 /* Have not yet researched this. */
2986 .minipage p {margin: .75ex 0em .75ex 0em ;}
2987
2988 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2989 .fcolorbox .minipage, .fcolorboxBlock .minipage
2990     {border: none ; background: none;}
2991
2992 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
2993
2994 .fbox, .fboxBlock, .colorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2995 .fminipage, .fcolorminipage
2996     {display: inline-block}
2997
2998 .shadowbox, .shabox {
2999     border: 1px solid black;
3000     box-shadow: 3px 3px 3px #808080 ;
3001     border-radius: 0px ;
3002     padding: .4ex .3em .4ex .3em ;
3003     margin: 0pt .3ex 0pt .3ex ;
3004     display: inline-block ;
3005 }
3006
3007 .doublebox {
3008     border: 3px double black;
3009     border-radius:0px ;
3010     padding: .4ex .3em .4ex .3em ;
3011     margin: 0pt .3ex 0pt .3ex ;
3012     display: inline-block ;
3013 }
3014
3015 .ovalbox, .Ovalbox {
3016     border: 1px solid black;
3017     border-radius: 1ex ;
3018     padding: .4ex .3em .4ex .3em ;
3019     margin: 0pt .3ex 0pt .3ex ;
3020     display: inline-block ;
3021 }
3022
3023 .Ovalbox { border-width: 2px ; }
3024
3025 .framebox {
3026     border: 1px solid black;
```

```
3027     border-radius: 0px ;
3028     padding: .3ex .2em 0ex .2em ;
3029     margin: 0pt .1ex 0pt .1ex ;
3030     display: inline-block ;
3031 }
3032
3033
3034 /* mdframed, tcolorbox, shadebox packages */
3035 .mdframed, .tcolorbox, .shadebox {
3036     padding: 0ex ;
3037     margin: 2ex 0em 2ex 0em ;
3038     border: 1px solid black ;
3039 }
3040
3041 .tcolorbox {
3042     border-radius: 10pt ;
3043     margin: 2ex 1em 2ex 1em ;
3044 }
3045
3046 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3047
3048 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3049
3050 .mdframedtitle, .tcolorboxtitle {
3051     padding: .5ex 0pt 0pt 0pt ;
3052     border-radius: 10pt 10pt 0pt 0pt ;
3053     display: block ;
3054     margin-bottom: 1ex ;
3055     border-bottom: 1px solid silver ;
3056 }
3057
3058 .tcolorboxsubtitle .tcolorbox {
3059     margin: 2ex 0em 2ex 0em ;
3060     border-radius: 0pt ;
3061 }
3062
3063 .mdframedsubtitle {
3064     display: block ;
3065 }
3066
3067 .mdframedsubsubtitle {
3068     display: block ;
3069 }
3070
3071 .mdtheorem {
3072     padding: 0ex .5em 0ex .5em ;
3073     margin: 3ex 5% 3ex 5% ;
3074 }
3075
3076
3077 /* framed package */
3078 .framed, pre.boxedverbatim, fcolorbox {
3079     margin: 3ex 0em 3ex 0em ;
3080     border: 1px solid black;
3081     border-radius: 0px ;
3082     padding: .3ex 1em 0ex 1em ;
3083     display: block ;
3084 }
3085
3086 .shaded {
```

```
3087     margin: 3ex 0em 3ex 0em ;
3088     padding: .3ex 1em .3ex 1em ;
3089     display: block ;
3090 }
3091
3092 .snugframed {
3093     margin: 3ex 0em 3ex 0em ;
3094     border: 1px solid black;
3095     border-radius: 0px ;
3096     display: block ;
3097 }
3098
3099 .framedleftbar {
3100     margin: 3ex 0em 3ex 0em ;
3101     border-left: 3pt solid black;
3102     border-radius: 0px ;
3103     padding: .3ex .2em .3ex 1em ;
3104     display: block ;
3105 }
3106
3107 .framedtitle {
3108     margin: 0em ;
3109     padding: 0em ;
3110     font-size: 130%
3111 }
3112
3113 .framedtitle p { padding: .3em }
3114
3115
3116 /* For the niceframe package: */
3117
3118 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3119     padding: 1ex ;
3120     margin: 2ex auto ;
3121     border-radius: 2ex ;
3122 }
3123
3124 div.niceframe {
3125     border: 6px groove black ;
3126 }
3127
3128 div.curlyframe {
3129     border-left: 3px dotted black ;
3130     border-right: 3px dotted black ;
3131     border-radius: 6ex ;
3132 }
3133
3134 div.artdecoframe {
3135     border-left: 10px double black ;
3136     border-right: 10px double black ;
3137     border-radius: 6ex ;
3138 }
3139
3140 div.generalframe {
3141     border: 6px groove black ;
3142 }
3143
3144
3145 /* For beamerarticle: */
3146 div.beamerframe {
```

```
3147     margin: 3ex 1em 3ex 1em ;
3148     border: 1px solid gray;
3149     border-radius: 0px ;
3150     padding: .3ex 1em 0ex 1em ;
3151     display: block ;
3152 }
3153
3154
3155 dl {
3156     margin: 1ex 2em 1ex 0em;
3157     line-height: 1.3;
3158 }
3159
3160 dl dt {
3161     display: block ;
3162     float:left ;
3163     font-weight: bold;
3164     padding-right: 1em ;
3165 }
3166
3167 dl dd { display: block ; }
3168
3169 dl dd:after { content: "" ; display: block ; clear: both }
3170
3171 dl dd p { margin-top: 0em; }
3172
3173 dd ul, dd ol, dd dl {
3174     clear: both ;
3175 /*     padding-top: 1ex ; */
3176 }
3177
3178
3179 nav {
3180     font-family: "URW Classico", Optima, "Linux Biolinum O",
3181         "DejaVu Sans", "Bitstream Vera Sans",
3182         Geneva, Verdana, sans-serif ;
3183     margin-bottom: 4ex ;
3184 }
3185
3186 nav p {
3187     line-height: 1.2 ;
3188     margin-top:.5ex ;
3189     margin-bottom:.5ex;
3190     font-size: .9em ;
3191 }
3192
3193
3194
3195 img, img.hyperimage, img.borderimage {
3196     max-width: 600px;
3197     border: 1px solid silver;
3198     box-shadow: 3px 3px 3px #808080 ;
3199     padding: .5% ;
3200     margin: .5% ;
3201     background: none ;
3202 }
3203
3204 img.inlineimage{
3205     padding: 0px ;
3206     box-shadow: none ;
```

```
3207 border: none ;
3208 background: none ;
3209 margin: 0px ;
3210 display: inline-block ;
3211 border-radius: 0px ;
3212 }
3213
3214 img.logoimage{
3215     max-width: 300px ;
3216     box-shadow: 3px 3px 3px #808080 ;
3217     border: 1px solid black ;
3218     background:none ;
3219     padding:0 ;
3220     margin:.5ex ;
3221     border-radius: 10px ;
3222 }
3223
3224
3225 .section {
3226 /*
3227     To have each section float relative to each other:
3228 */
3229 /*
3230     display: block ;
3231     float: left ;
3232     position: relative ;
3233     background: white ;
3234     border: 1px solid silver ;
3235     padding: .5em ;
3236 */
3237     margin: 0ex .5em 0ex .5em ;
3238     padding: 0 ;
3239 }
3240
3241
3242 figure {
3243     margin: 5ex auto 5ex auto ;
3244     padding: 1ex 1em 1ex 1em ;
3245     overflow-x: auto ;
3246 }
3247
3248
3249 /* To automatically center images in figures: */
3250 /*
3251 figure img.inlineimage {
3252     margin: 0ex auto 0ex auto ;
3253     display: block ;
3254 }
3255 */
3256
3257 /* To automatically center minipages in figures: */
3258 /*
3259 figure div.minipage, figure div.minipage div.minipage {
3260     margin: 1ex auto 1ex auto ;
3261     display: block ;
3262 }
3263 */
3264
3265 figure figure { margin: 0pt }
3266
```

```
3267 figure div.minipage p { font-size: 85% ; }
3268
3269 figure.subfigure, figure.subtable {
3270     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3271 }
3272
3273 div.figurecaption .minipage { margin:0 ; padding: 0 }
3274
3275 /* for subcaptions: */
3276 figure div.minipage div.figurecaption {
3277     max-width: 100% ; /* fallback if min() does not work */
3278     max-width: min(30em,100%)
3279 }
3280
3281 div.minipage figure { border: none ; box-shadow: none ; }
3282 div.minipage figure.table { margin: 0ex }
3283 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3284
3285 div.floatrow { text-align: center; }
3286
3287 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3288
3289 div.floatfoot { font-size: .85em ;
3290     border-top: 1px solid silver ; line-height: 1.2 ; }
3291
3292 /* Center if only one line, "start" align if more than one line: */
3293 div.figurecaption , .lstlistingtitle {
3294     font-size: .85em ;
3295     font-weight: bold ;
3296     text-align: start ;
3297     margin: 1ex auto;
3298     width: max-content;
3299     max-width: 100%;
3300 }
3301
3302 /* A marginblock is small, so always center and don't mess with the width. */
3303 div.marginblock div.figurecaption {
3304     width: 100% ;
3305     text-align: center ;
3306 }
3307
3308 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3309     border-bottom: none ; background: none ;
3310 }
3311
3312 div.nonfloatcaption {
3313     margin: 1ex auto 1ex auto ;
3314     font-size: .85em ;
3315     text-align: center ;
3316     font-weight: bold ;
3317 }
3318
3319 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3320 figure div.floatrow div.minipage div.figurecaption {
3321     border: none ;
3322     background: none ;
3323 }
3324
3325
3326 /* For packages such as float, rotfloat, and algorithm2e: */
```

```
3327
3328 figure.boxed, figure.boxruled {
3329     border: 1px solid black ;
3330 }
3331
3332 figure.ruled {
3333     border-top: 1px solid black ;
3334     border-bottom: 1px solid black ;
3335     border-left: 0px ;
3336     border-right: 0px ;
3337     border-radius: 0px ;
3338     background: none ;
3339     box-shadow: none ;
3340 }
3341
3342 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3343     border-top: 1px solid silver ;
3344     border-bottom: 1px solid silver ;
3345 }
3346
3347
3348 table {
3349     margin: 1ex auto 1ex auto ;
3350     border-collapse: separate ;
3351     border-spacing: 0px ;
3352     line-height: 1.3 ;
3353 }
3354
3355 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3356     margin-bottom: 0ex ; } /* for \hline */
3357
3358 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3359     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3360
3361 td {padding: .5ex .5em .5ex .5em ;}
3362
3363 table td.tdl { text-align: left ; vertical-align: middle ; }
3364 table td.tdc { text-align: center ; vertical-align: middle ; }
3365 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3366 table td.tdbang { text-align: center ; vertical-align: middle ; }
3367 table td.tdr { text-align: right ; vertical-align: middle ; }
3368 table td.tdp { text-align: left ; vertical-align: bottom ; }
3369 table td.tdm { text-align: left ; vertical-align: middle ; }
3370 table td.tdb { text-align: left ; vertical-align: top ; }
3371
3372 table td.tvertbarl { border-left: 1px solid black }
3373 table td.tvertbarldouble { border-left: 4px double black }
3374 table td.tvertbarr { border-right: 1px solid black }
3375 table td.tvertbarrdouble { border-right: 4px double black }
3376
3377 table td.tvertbarldash { border-left: 1px dashed black }
3378 table td.tvertbarldoubledash { border-left: 2px dashed black }
3379 table td.tvertbarrdash { border-right: 1px dashed black }
3380 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3381
3382 table td.tdcenter { text-align: center}
3383 table td.tdleft { text-align: left}
3384 table td.tdright { text-align: right}
3385
3386
```

```
3387 /* for cmidrules: */
3388 table td.tdrule {
3389     border-top: 1px solid #A0A0A0 ;
3390 }
3391
3392 table td.tdrulel {
3393     border-top-left-radius:.5em ;
3394     border-top: 1px solid #A0A0A0 ;
3395 }
3396
3397 table td.tdruler {
3398     border-top-right-radius:.5em ;
3399     border-top: 1px solid #A0A0A0 ;
3400 }
3401
3402 table td.tdrulelr {
3403     border-top-left-radius:.5em ;
3404     border-top-right-radius:.5em ;
3405     border-top: 1px solid #A0A0A0 ;
3406 }
3407
3408
3409 /* Margins of paragraphs inside table cells: */
3410 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3411     padding-bottom: 1ex ; margin: 0ex ; }
3412 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3413     padding-bottom: 1ex ; margin: 0ex ; }
3414 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3415     padding-bottom: 1ex ; margin: 0ex ; }
3416
3417 td.tdp , td.tdprule , td.tdP , td.tdPrule
3418     { padding: 0ex .5em 0ex .5em ; }
3419 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3420     { padding: 0ex .5em 0ex .5em ; }
3421 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3422     { padding: 0ex .5em 0ex .5em ; }
3423
3424
3425 /* table notes: */
3426 .tnotes {
3427     margin: 0ex 5% 1ex 5% ;
3428     padding: 0.5ex 1em 0.5ex 1em;
3429     font-size:.80em;
3430     text-align: left ;
3431 }
3432
3433 .minipage .tnotes {
3434     margin: 0pt ;
3435     padding: 0pt ;
3436 }
3437
3438 .tnotes dl dt p {margin-bottom:0px;}
3439
3440 .tnoteitemheader {margin-right: 1em;}
3441
3442
3443 /* for colortbl and cell color */
3444 div.cellcolor {
3445     width: 100% ;
3446     padding: .5ex .5em .5ex .5em ;
```



```
3447     margin: -.5ex -.5em -.5ex -.5em ;
3448 }
3449
3450
3451 /* for lyluatex */
3452 span.lyluatex {
3453     display: inline-block ;
3454 }
3455
3456 div.lyluatex p span.lateximagesource img {
3457     display: block ;
3458     margin-top: 3ex ;
3459     margin-bottom: 3ex ;
3460 }
3461
3462
3463 /* for bigdelim */
3464 .ldelim, .rdelim { font-size: 200% }
3465
3466
3467 /* center, flushleft, flushright environments */
3468 div.center{text-align:center;}
3469 div.center table {margin-left:auto;margin-right:auto;}
3470 div.flushleft{text-align:left;}
3471 div.flushleft table {margin-left:0em ; margin-right:auto;}
3472 div.flushright{text-align:right;}
3473 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3474
3475
3476 /* Fancybox */
3477 div.Btrivlist table tr td {
3478     padding: .2ex 0em ;
3479 }
3480
3481
3482 /* program listing callouts: */
3483 span.callout {
3484     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3485     Geneva, Verdana, sans-serif ;
3486     border-radius: .5em;
3487     background-color:black;
3488     color:white;
3489     padding:0px .25em 0px .25em;
3490     margin: 0 ;
3491     font-weight: bold;
3492     font-size:.72em ;
3493 }
3494
3495 div.programlisting pre.verbatim span.callout{
3496     font-size: .85em ;
3497 }
3498
3499 span.verbatim {
3500     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3501     "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3502     "Courier New", monospace;
3503 }
3504
3505
3506
```

```
3507 div.titlehead
3508 {
3509     text-align: left ;
3510     font-style: normal ;
3511     font-weight: normal ;
3512     font-style: normal ;
3513     font-size: .8em ;
3514     margin: 1ex 0em 1ex 0em ;
3515 }
3516
3517 div.subject
3518 {
3519     text-align: center ;
3520     font-style: normal ;
3521     font-weight: bold ;
3522     font-style: normal ;
3523     font-size: .8em ;
3524     margin: 1ex 0em 1ex 0em ;
3525 }
3526
3527 div.published
3528 {
3529     text-align: center ;
3530     font-variant: normal ;
3531     font-style: italic ;
3532     font-size: 1em ;
3533     margin: 1ex 0em 1ex 0em ;
3534 }
3535
3536 div.subtitle
3537 {
3538     text-align: center ;
3539     font-variant: normal ;
3540     font-style: italic ;
3541     font-size: 1.25em ;
3542     margin: 1ex 0em 1ex 0em ;
3543 }
3544
3545 div.subtitle p { margin: 1ex ; }
3546
3547 div.author
3548 {
3549     text-align: center ;
3550     font-variant: normal ;
3551     font-style: normal ;
3552     font-size: 1em ;
3553     margin: 1ex 0em 1ex 0em ;
3554 }
3555
3556 div.oneauthor {
3557     display: inline-block ;
3558     margin: 0ex 1em 0ex 1em ;
3559 }
3560
3561 /*
3562 div.author table {
3563     margin: 1ex auto 0ex auto ;
3564     background: none ;
3565 }
3566
```

```
3567 div.author table tbody tr td { padding: .25ex ; }
3568 */
3569
3570 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3571
3572 div.titledate {
3573     text-align: center ;
3574     font-size: .85em ;
3575     font-style: italic;
3576     margin: 1ex 0em 1ex 0em ;
3577 }
3578
3579
3580 nav.topnavigation{
3581     text-align: left ;
3582     padding: 0.5ex 1em 0.5ex 1em ;
3583 /*     margin: 2ex 0em 3ex 0em ; */
3584     margin: 0 ;
3585     border-bottom: 1px solid silver ;
3586     border-top: 1px solid silver ;
3587     clear:both ;
3588 }
3589
3590 nav.botnavigation{
3591     text-align: left ;
3592     padding: 0.5ex 1em 0.5ex 1em ;
3593 /*     margin: 3ex 0em 2ex 0em ; */
3594     margin: 0 ;
3595     border-top: 1px solid silver ;
3596     border-bottom: 1px solid silver ;
3597     clear:both ;
3598 }
3599
3600
3601 header {
3602     line-height: 1.2 ;
3603     font-size: 1em ;
3604     border-bottom: 1px solid silver ;
3605     margin: 0px ;
3606     padding: 2ex 1em 2ex 1em ;
3607     text-align:left ;
3608 }
3609
3610
3611 footer {
3612     font-size: .85em ;
3613     line-height: 1.2 ;
3614     margin-top: 1ex ;
3615     border-top: 1px solid silver ;
3616     padding: 2ex 1em 2ex 1em ;
3617     clear:both ;
3618     text-align:left ;
3619 }
3620
3621
3622 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3623 a.linkhome { font-weight:bold; font-size: 1em ;}
3624
3625
3626 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
```

```
3627
3628 img.lateximage{
3629     padding: 0pt ;
3630     margin: 0pt ;
3631     box-shadow: none ;
3632     border: none ;
3633     background: none ;
3634     max-width: 100% ;
3635     border-radius: 0ex ;
3636     border: none ;
3637 }
3638
3639
3640 div.sidetoccontainer {
3641     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3642         "Lucida Bright", Georgia, serif;
3643     float: left ;
3644     width: 19%; /* room for border-right next to 80% main */
3645     margin: 0pt 0em 3ex 0pt ;
3646     border-right: 1px solid silver;
3647     border-bottom: 1px solid silver;
3648     background: #FAF7F4 ;
3649     font-size:.9em ;
3650     border-radius: 0px 0px 20px 0px ;
3651 }
3652
3653 div.sidetoccontents {
3654     overflow-y: auto ;
3655     width: 100% ;
3656     text-align: left ;
3657 }
3658
3659
3660 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3661     text-indent: 0 ; }
3662
3663 nav.sidetoc p a {color:black ; font-size: .7em ;}
3664
3665 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3666     border-bottom: 1px solid silver ; }
3667
3668 nav.sidetoc a:hover {text-decoration: underline ; }
3669
3670
3671
3672 section.textbody { margin: 0ex 1em 0ex 1em ;}
3673
3674
3675 div.multicolsheading { -webkit-column-span: all;
3676     -moz-column-span: all; column-span: all; }
3677 div.multicols {
3678     -webkit-columns: 3 auto ;
3679     -moz-columns: 3 auto ;
3680     columns: 3 auto ;
3681 }
3682 div.multicols p {margin-top: 0ex}
3683
3684
3685 /* Used for xfrac and nicefrac: */
3686 span.numerator {
```

```
3687     font-size: 60% ;
3688     vertical-align: .4em ;
3689 }
3690
3691 span.denominator {
3692     font-size: 60%
3693 }
3694
3695
3696 /* Used for algorithm2e: */
3697 div.alg2evline{
3698     margin-left: 1em ;
3699     padding-left: 1em ;
3700     border-left: 1px solid black ;
3701     border-radius: 0px 0px 0px 1ex ;
3702 }
3703
3704 div.alg2evsline{
3705     margin-left: 1em ;
3706     padding-left: 1em ;
3707     border-left: 1px solid black ;
3708 }
3709
3710 div.alg2enoline{
3711     margin-left: 1em ;
3712     padding-left: 1em ;
3713 }
3714
3715 span.alg2elinenumber{
3716     margin-right: .5em ;
3717     font-size: 60% ;
3718     color: red ;
3719 }
3720
3721
3722 /* Used for algorithmicx: */
3723 span.floatright { float: right ; }
3724
3725
3726 /* keyfloat and tocdata: */
3727 .floatnotes {
3728     margin: 0ex 5% 0ex 5% ;
3729     padding: 0ex 1em 0ex 1em ;
3730     font-size:.80em ;
3731     text-align: left ;
3732 }
3733
3734 .authorartist{
3735     display:block ;
3736     font-size:.70em ;
3737     font-style: italic;
3738 }
3739
3740 nav .authorartist{ display:inline; }
3741
3742
3743
3744 /* Native LaTeX theorems: */
3745
3746 .theoremcontents {
```

```
3747     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3748 }
3749
3750 .theoremlabel {
3751     font-style: normal; font-weight: bold ; margin-right: .5em ;
3752 }
3753
3754
3755
3756 /* theorem, amsthm, and ntheorem packages */
3757
3758 span.theoremheader,
3759 span.theoremheaderplain,
3760 span.theoremheaderdefinition,
3761 span.theoremheaderbreak,
3762 span.theoremheadermarginbreak,
3763 span.theoremheaderchangebreak,
3764 span.theoremheaderchange,
3765 span.theoremheadermargin
3766 {
3767     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3768 }
3769
3770 span.amsthmnameplain,
3771 span.amsthmnamedefinition,
3772 span.amsthmnumberplain,
3773 span.amsthmnumberdefinition
3774 {
3775     font-style:normal ; font-weight: bold ;
3776 }
3777
3778
3779 span.amsthmnameremark,
3780 span.amsthmnumberremark
3781 {font-style:italic ; font-weight: normal ; }
3782
3783
3784 span.amsthmnoteplain,
3785 span.amsthmnotedefinition
3786 {font-style:normal ;}
3787
3788
3789 span.theoremheaderremark,
3790 span.theoremheaderproof,
3791 span.amsthmproofname
3792 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3793
3794 span.theoremheadersc
3795 {
3796     font-style:normal ;
3797     font-variant: small-caps ;
3798     font-weight: normal ;
3799     margin-right: 1em ;
3800 }
3801
3802 .theoremendmark {float:right}
3803
3804 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3805 div.theorembodybreak, div.theorembodynonumberbreak,
3806 div.theorembodymarginbreak,
```

```
3807 div.theorembodychangebreak,
3808 div.theorembodychange,
3809 div.theorembodymargin
3810 {
3811     font-style:italic;
3812     margin-top: 3ex ; margin-bottom: 3ex ;
3813 }
3814
3815 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3816 div.theorembodyplainupright, nonumberplainuprightsc,
3817 div.amsthmbodydefinition, div.amsthmbodyremark,
3818 div.amsthmproof
3819 {
3820     font-style: normal ;
3821     margin-top: 3ex ; margin-bottom: 3ex ;
3822 }
3823
3824 span.amsthmnoteremark {}
3825
3826
3827 /* thmbox */
3828
3829 .thmbox {
3830     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3831     border: 1px solid gray ;
3832     padding: 1ex ;
3833 }
3834
3835 .thmboxtitle {
3836     font-style: normal; font-weight: bold ; margin-right: .5em ;
3837     border-bottom: 1px solid gray ;
3838 }
3839
3840 span.thmboxproofname, span.thmboxexamplename {
3841     font-weight: bold ;
3842 }
3843
3844 div.thmboxproof, div.thmboxexample {
3845     font-size: 0.85em ;
3846     margin: 2ex ;
3847 }
3848
3849 div.thmboxleftbar {
3850     border-left: 2px solid black ;
3851     padding-left: 1em ;
3852 }
3853
3854
3855
3856 /* For the backnaur package: */
3857 div.backnaur {
3858     display: block ;
3859     margin: 2ex 2em 2ex 2em ;
3860 }
3861
3862 div.backnaur p {
3863     margin: .25ex 0ex .25ex 0ex ;
3864 }
3865
3866 div.backnaurprod {
```

```
3867     display: inline-block ;
3868     min-width: 8em ;
3869     text-align:right ;
3870 }
3871
3872 div.backnaurdesc {
3873     display: inline-block ;
3874 }
3875
3876
3877 /* For the notes package: */
3878 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3879     clear: both ;
3880     margin: 2ex 2em 2ex 2em ;
3881     border: 1px solid silver ;
3882 }
3883
3884 div.notesicon {
3885     float:left ;
3886     display: inline-block ;
3887     background: gold ;
3888     padding: 0ex 1em 0ex 1em ;
3889     margin-right: 1em ;
3890     font-weight: bold ;
3891 }
3892
3893 div.notescontents { font-style: italic }
3894
3895
3896 /* nolbreaks package: */
3897 span.nolbreaks { white-space: nowrap ; }
3898
3899
3900 /*
3901 For CSS LaTeX and related logos:
3902 Based on spacing demonstrated by the metafont package.
3903
3904 The subscripts are shrunk instead of lowered below the baseline,
3905 to avoid browser rendering errors with the line height in lists, etc.
3906 */
3907
3908 .latexlogofont {
3909     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3910                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3911     font-variant: normal ;
3912 }
3913
3914 .latexlogo {
3915     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3916                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3917 }
3918
3919 .latexlogosup {
3920     text-transform: uppercase;
3921     letter-spacing: .03em ;
3922     font-size: 0.7em;
3923     vertical-align: 0.25em;
3924     margin-left: -0.4em;
3925     margin-right: -0.15em;
3926 }
```



```
3927
3928 .latexlogosub {
3929   text-transform: uppercase;
3930 /* vertical-align: -0.27ex; */
3931   margin-left: -0.08em;
3932   margin-right: -0.07em;
3933 /* font-size: 1em; */
3934   font-size: .7em ;
3935 }
3936
3937 .latexlogotwoe {
3938   text-transform: none ;
3939   font-variant-numeric: oldstyle-nums ;
3940 }
3941
3942 .latexlogotwoesub {
3943   font-style:italic ;
3944 /* vertical-align: -0.27ex; */
3945   margin-left: -0.11em;
3946   margin-right: -0.1em;
3947 /* font-size: 1em; */
3948   font-size: .7em ;
3949 }
3950
3951 .xelatexlogo {
3952   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3953             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3954   letter-spacing: .03em ;
3955 }
3956
3957 .xelatexlogosub {
3958 /* vertical-align: -0.27ex; */
3959   margin-left: -0.0667em;
3960   margin-right: -.05em;
3961 /* font-size: 1em; */
3962   font-size: .7em ;
3963   letter-spacing: .03em ;
3964 }
3965
3966 .amslogo {
3967   font-family: "TeXGyreChorus","URW Chancery L",
3968             "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3969             "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3970             "Hoefler Text", Times, "Times New Roman", serif ;
3971   font-style: italic ;
3972 }
3973
3974 .lyxlogo {
3975   font-family: "URW Classico", Optima, "Linux Biolinum O",
3976             "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3977             Verdana, sans-serif ;
3978 }
3979
3980
3981 /* Only display top and bottom navigation if a small screen: */
3982 /* Hide the sidetoc if a small screen: */
3983 nav.topnavigation { display:none; }
3984 nav.botnavigation { display:none; }
3985
3986 /* Only display the sidetoc's webpage title if a small screen */
```

```
3987 span.sidetocthetitle { display: none }
3988
3989 @media screen and (max-width: 100em) {
3990     div.multicols {
3991         -webkit-columns: 2 auto ;
3992         -moz-columns: 2 auto ;
3993         columns: 2 auto ;
3994     }
3995 }
3996
3997 @media screen and (max-width: 50em) {
3998     div.sidetoccontainer {
3999         float: none ;
4000         width: 100% ;
4001         padding: 0 ;
4002         border-radius: 0 ;
4003         border-bottom: 1px solid black ;
4004         border-top: 1px solid black ;
4005         box-shadow: none ;
4006     }
4007     span.sidetocthetitle { display: inline }
4008     nav.topnavigation { display:block }
4009     nav.botnavigation { display:block }
4010     main.bodycontainer { width: 100% }
4011     .marginpar {
4012         max-width: 100%;
4013         float: none;
4014         display:block ;
4015         margin: 1ex 1em 1ex 1em ;
4016     }
4017     div.multicols {
4018         -webkit-columns: 1 auto ;
4019         -moz-columns: 1 auto ;
4020         columns: 1 auto ;
4021     }
4022 }
4023
4024 @media print {
4025     body {
4026         font-family: "Linux Libertine O",
4027         "DejaVu Serif", "Bitstream Vera Serif",
4028         "Liberation Serif", "Nimbus Roman No 9 L",
4029         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4030     }
4031     div.sidetoccontainer { display:none; }
4032     nav.topnavigation { display: none; }
4033     nav.botnavigation { display: none; }
4034     main.bodycontainer { width: 100% }
4035 }
4036
4037 @media handheld {
4038     div.sidetoccontainer { display:none; }
4039     nav.topnavigation { display:block }
4040     nav.botnavigation { display:block }
4041     main.bodycontainer { width: 100% }
4042 }
4043
4044 @media projection {
4045     div.sidetoccontainer { display:none; }
4046     nav.topnavigation { display:block }
```

```

4047     nav.botnavigation { display:block }
4048     main.bodycontainer { width: 100% }
4049 }
4050 \end{filecontents*}
4051 % \end{Verbatim}% for syntax highlighting
4052 \end{LWRwriteconf}

```

## 40.5 lwarp\_sagebrush.css

File lwarp\_sagebrush.css

An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4053 \begin{LWRwriteconf}
4054 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4055 @import url("lwarp.css") ;
4056
4057
4058 A:link {color:#105030 ; text-decoration: none ; }
4059 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4060 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4061 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4062
4063
4064
4065 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4066 {
4067     font-family: "URW Classico", Optima, "Linux Biolinum O",
4068         "Linux Libertine O", "Liberation Serif",
4069         "Nimbus Roman No 9 L", "FreeSerif",
4070         "Hoefler Text", Times, "Times New Roman", serif;
4071     font-variant: small-caps ;
4072     font-weight: normal ;
4073     color: #304070 ;
4074     text-shadow: 2px 2px 3px #808080;
4075 }
4076
4077 h1 { /* title of the entire website, used on each page */
4078     font-variant: small-caps ;
4079     color: #304070 ;
4080     text-shadow: 2px 2px 3px #808080;
4081     background-color: #F7F7F0 ;
4082     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4083 }
4084
4085 h1 {
4086     border-bottom: 1px solid #304070;
4087 /* border-top: 2px solid #304070; */
4088 }
4089
4090 h2 {
4091     border-bottom: 1px solid #304070;
4092 /* border-top: 2px solid #304070; */
4093     background-color: #F7F7F0 ;
4094     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4095 }
4096

```

```
4097
4098
4099 div.abstract {
4100     background: #f5f5eb ;
4101     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4102
4103     border: 1px solid silver;
4104     border-radius: 1em ;
4105 }
4106
4107 div.abstract dl {line-height:1.5;}
4108 div.abstract dt {color:#304070;}
4109
4110 div.abstracttitle{
4111     font-family: "URW Classico", Optima, "Linux Biolinum O",
4112         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4113         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4114     font-weight:bold;
4115     font-variant: small-caps ;
4116     font-size:1.5em;
4117     border-bottom: 1px solid silver ;
4118     color: #304070 ;
4119     text-align: center ;
4120     text-shadow: 1px 1px 2px #808080;
4121 }
4122
4123 span.abstracrunintitle{
4124     font-family: "URW Classico", Optima, "Linux Biolinum O",
4125         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4126         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4127     font-weight:bold;
4128 }
4129
4130
4131 div.epigraph, div.dictum {
4132     background: #f5f5eb ;
4133     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4134
4135     border: 1px solid silver ;
4136     border-radius: 1ex ;
4137     box-shadow: 3px 3px 3px #808080 ;
4138 }
4139
4140
4141 .example {
4142     background-color: #f5f5eb ;
4143     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4144
4145 }
4146
4147 div.exampletitle{
4148     font-family: "URW Classico", Optima, "Linux Biolinum O",
4149         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4150         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4151     font-weight:bold;
4152     font-variant: small-caps ;
4153     border-bottom: 1px solid silver ;
4154     color: #304070 ;
4155     text-align: center ;
4156     text-shadow: 1px 1px 2px #808080;
```

```
4157 }
4158
4159
4160 .sidebar {
4161     background-color: #f5f5eb ;
4162     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4163
4164 }
4165
4166 div.sidebar{
4167     font-family: "URW Classico", Optima, "Linux Biolinum O",
4168         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4169         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4170     font-weight:bold;
4171     font-variant: small-caps ;
4172     border-bottom: 1px solid silver ;
4173     color: #304070 ;
4174     text-align: center ;
4175     text-shadow: 1px 1px 2px #808080;
4176 }
4177
4178
4179 .fancyvrblabel {
4180     font-family: "URW Classico", Optima, "Linux Biolinum O",
4181         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4182         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4183     font-weight:bold;
4184     font-variant: small-caps ;
4185     font-size: 1.5em ;
4186     color: #304070 ;
4187     text-align: center ;
4188     text-shadow: 1px 1px 2px #808080;
4189 }
4190
4191 div.minipage {
4192     background-color: #eeeeee7 ;
4193     border: 1px solid silver ;
4194     border-radius: 1ex ;
4195 }
4196
4197 table div.minipage { background: none ; border: none ; }
4198
4199 div.framebox div.minipage {border:none ; background:none}
4200
4201 section.textbody > div.minipage {
4202     box-shadow: 3px 3px 3px #808080 ;
4203 }
4204
4205 div.fboxBlock div.minipage { box-shadow: none ; }
4206
4207 .framed .minipage , .framedleftbar .minipage {
4208     border: none ;
4209     background: none ;
4210     padding: 0ex ;
4211     margin: 0ex ;
4212 }
4213
4214 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4215
4216 div.marginblock div.minipage ,
```

```
4217 div.marginparblock div.minipage
4218     { border: none; }
4219
4220 figure , div.marginblock {
4221     background-color: #eeeeee7 ;
4222     border: 1px solid silver ;
4223     border-radius: 1ex ;
4224     box-shadow: 3px 3px 3px #808080 ;
4225 }
4226
4227 figure figure {
4228     border: 1px solid silver ;
4229     margin: 0em ;
4230     box-shadow: none ;
4231 }
4232
4233 /*
4234 div.figurecaption {
4235     border-top: 1px solid silver ;
4236     border-bottom: 1px solid silver ;
4237     background-color: #e8e8e8 ;
4238 }
4239 */
4240
4241
4242 div.table {
4243     box-shadow: 3px 3px 3px #808080 ;
4244 }
4245
4246 /*
4247 .tnotes {
4248     background: #e8e8e8;
4249     border: 1px solid silver;
4250 }
4251 */
4252
4253
4254 nav.topnavigation{
4255     background-color: #b0b8b0 ;
4256     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4257 }
4258
4259 nav.botnavigation{
4260     background-color: #b0b8b0 ;
4261     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4262 }
4263
4264
4265
4266 header{
4267     background-color: #F7F7F0 ;
4268     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4269 }
4270
4271 footer{
4272     background-color: #F7F7F0 ;
4273     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4274 }
4275
4276
```

```

4277
4278 div.sidetoccontainer {
4279     background-color: #F7F7F0 ;
4280     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4281     box-shadow: 3px 3px 3px #808080 ;
4282 }
4283
4284 div.sidetocitle {color: #304070 ; }
4285
4286 nav.sidetoc a:hover {
4287     color:#006000 ;
4288     text-decoration: none ;
4289     text-shadow:0px 0px 2px #a0a0a0;
4290 }
4291
4292
4293 @media screen and (max-width: 45em) {
4294     div.sidetoccontainer { border-radius: 0 ; }
4295 }
4296
4297
4298 \end{filecontents*}
4299 % \end{Verbatim}% for syntax highlighting
4300 \end{LWRwriteconf}

```

## 40.6 lwarp\_formal.css

File lwarp\_formal.css

An optional CSS which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4301 \begin{LWRwriteconf}
4302 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4303 @import url("lwarp.css") ;
4304
4305
4306
4307 A:link {color:#802020 ; text-decoration:none; }
4308 A:visited {color:#802020 ; text-shadow:none;}
4309 A:hover {color:#400000 ; text-shadow:none;}
4310 A:active {color:#C00000 ; text-shadow:none;}
4311
4312
4313 body {
4314     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4315         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4316         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4317         "Times New Roman", serif;
4318     background: #fffcf5;
4319 }
4320
4321 span.textrm {
4322     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4323         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4324         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4325         "Times New Roman", serif;
4326 }

```

```
4327
4328 span.textsf {
4329     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4330         Geneva, Verdana, sans-serif ;
4331 }
4332
4333
4334
4335 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4336 {
4337     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4338         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4339         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4340         "Times New Roman", serif;
4341     color: #800000 ;
4342     text-shadow: none ;
4343 }
4344
4345 h1, h2 {
4346     background-color: #fffcf5 ;
4347     background-image: none ;
4348     border-bottom: 1px solid #808080;
4349 /*     border-top: 2px solid #808080; */
4350 }
4351
4352 div.abstracttitle {
4353     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4354         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4355         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4356         "Times New Roman", serif;
4357     color: black ;
4358     text-shadow: none ;
4359 }
4360
4361 span.abstracrunintitle {
4362     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4363         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4364         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4365         "Times New Roman", serif;
4366     color: black ;
4367     text-shadow: none ;
4368 }
4369
4370 div.abstract { font-size: 100% }
4371
4372 .sidebar {
4373     background: #fffcf5;
4374     background-image: none ;
4375     margin: 2em 5% 2em 5%;
4376     padding: 0.5em 1em;
4377     border: none ;
4378     border-top : 1px solid silver;
4379     border-bottom : 1px solid silver;
4380     font-size: 90% ;
4381 }
4382
4383 div.sidebartitle{
4384     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4385         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4386         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
```



```
4387     "Times New Roman", serif;
4388     color: #800000 ;
4389     text-shadow: none ;
4390     border: none ;
4391 }
4392
4393 .example {
4394     background: #fffcf5;
4395     background-image: none ;
4396     margin: 2em 5% 2em 5%;
4397     padding: 0.5em 1em;
4398     border: none ;
4399     border-top : 1px solid silver;
4400     border-bottom : 1px solid silver;
4401 }
4402
4403 div.exampletitle{
4404     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4405         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4406         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4407         "Times New Roman", serif;
4408     color: #800000 ;
4409     text-shadow: none ;
4410     border: none ;
4411 }
4412
4413 div.fancyvrblabel{
4414     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4415         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4416         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4417         "Times New Roman", serif;
4418     color: #800000 ;
4419     text-shadow: none ;
4420     border: none ;
4421 }
4422
4423
4424
4425 figure {
4426     margin: 5ex 5% 5ex 5% ;
4427     padding: 1ex 1em 1ex 1em ;
4428     background-color: #fffcf5 ;
4429     overflow-x: auto ;
4430     border: none ;
4431 /*     border-top: 1px solid silver; */
4432 /*     border-bottom: 1px solid silver; */
4433 }
4434
4435
4436 div.figurecaption , .lstlisting {
4437     border: none ;
4438 /*     border-top: 1px solid silver ; */
4439 /*     border-bottom: 1px solid silver ; */
4440     background-color: #fffcf5 ;
4441 }
4442
4443 .tnotes {
4444     background: #fffcf5 ;
4445     border-top: 1px solid silver ;
4446     border-bottom: 1px solid silver ;
```

```
4447 }
4448
4449 .theorem {
4450     background: none ;
4451 }
4452
4453 .minipage {
4454     background-color: #ffffcf5 ;
4455     border: none ;
4456 }
4457
4458 div.floatrow figure { border: none ; }
4459
4460 figure figure { border: none ; }
4461
4462
4463 nav.toc, nav.lof, nav.lot, nav.lol {
4464     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4465         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4466         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4467         "Times New Roman", serif;
4468 }
4469
4470 div.sidetoccontainer {
4471     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4472         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4473         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4474         "Times New Roman", serif;
4475     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4476 }
4477
4478 div.sidetoctitle{
4479     color: #800000 ;
4480 }
4481
4482 header{
4483     background-color: #e0e0e0 ;
4484     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4485     text-align:center ;
4486 }
4487
4488 footer{
4489     background-color: #e0e0e0 ;
4490     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4491     padding: 2ex 1em 2ex 1em ;
4492     text-align:left ;
4493 }
4494
4495 nav.botnavigation {
4496     background: #dedcd5 ;
4497     border-top: 1px solid black ;
4498 }
4499 \end{filecontents*}
4500 % \end{Verbatim}% for syntax highlighting
4501 \end{LWRwriteconf}
```

## 40.7 sample\_project.css

File sample\_project.css

The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4502 \begin{LWRwriteconf}
4503 \begin{filecontents*}[overwrite]{sample_project.css}
4504 /* ( --- Start of project.css --- ) */
4505 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4506
4507 /* Uncomment one of the following: */
4508 @import url("lwarp.css") ;
4509 /* @import url("lwarp_formal.css") ; */
4510 /* @import url("lwarp_sagebrush.css") ; */
4511
4512 /* Project-specific CSS setting follow here. */
4513 /* . . . */
4514
4515 /* ( --- End of project.css --- ) */
4516 \end{filecontents*}
4517 % \end{Verbatim}% for syntax highlighting
4518 \end{LWRwriteconf}

```

## 40.8 lwarp.ist

File lwarp.ist

Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

```

Config file: 4519 \begin{LWRwriteconf}
4520 \begin{filecontents*}[overwrite]{lwarp.ist}
4521 preamble
4522 "\begin{theindex}
4523   \providecommand*\lettergroupDefault[1]{}
4524   \providecommand*\lettergroup[1]{%
4525     \par\textbf{#1}\par
4526     \nopagebreak
4527   }
4528 "
4529 headings_flag 1
4530 heading_prefix "
4531   \lettergroup{"
4532 heading_suffix "}"
4533 delim_0 ", \hyperindexref{"
4534 delim_1 ", \hyperindexref{"
4535 delim_2 ", \hyperindexref{"
4536 delim_n "}, \hyperindexref{"
4537 delim_r "} -- \hyperindexref{"
4538 delim_t "}"
4539 page_compositor "."
4540 \end{filecontents*}
4541 % \end{Verbatim}% for syntax highlighting
4542 \end{LWRwriteconf}

```

## 40.9 lwarp.xdy

File lwarp.xdy

Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

**Config file:**

```

4543 \begin{LWRwriteconf}
4544 \begin{filecontents*}[overwrite]{lwarp.xdy}
4545 (require "tex/inputenc/latin.xdy")
4546 (merge-rule "\\PS *" "Postscript")
4547 (require "texindy.xdy")
4548 (require "page-ranges.xdy")
4549 (require "book-order.xdy")
4550 (define-location-class "arabic-page-numbers"
4551   ("arabic-numbers") :min-range-length 1)
4552 (require "makeindex.xdy")
4553 (define-attributes (("hyperindexref"))
4554 (markup-locref :open "\hyperindexref{" :close "}")
4555 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4556 (markup-locref :open "\textbf{\hyperindexref{" :close "}" :attr "textbf")
4557 (markup-locref :open "\textit{\hyperindexref{" :close "}" :attr "textit")
4558 (define-location-class-order ("roman-page-numbers"
4559   "arabic-page-numbers"
4560   "alpha-page-numbers"
4561   "Roman-page-numbers"
4562   "Alpha-page-numbers"
4563   "see"
4564   "seealso"))
4565 \end{filecontents*}
4566 % \end{Verbatim}% for syntax highlighting
4567 \end{LWRwriteconf}

```

## 40.10 lwarp\_one\_limage.cmd

File lwarp\_one\_limage.cmd

Used by lwarp to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file lwarp\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarp\_one\_limage.txt is created instead, then copied to lwarp\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

**Config file:**

```

4568 \begin{LWRwriteconf}
4569 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4570 \immediate\write\LWR@quickfile{%
4571   pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4572   \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4573 }
4574 \immediate\write\LWR@quickfile{%

```

```

4575 pdfcrop --hires --margins \LWRopquote0 1 0 0\LWRopquote\space %
4576 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4577 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4578 }
4579 \immediate\write\LWR@quickfile{%
4580 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4581 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4582 }
4583 \immediate\write\LWR@quickfile{%
4584 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4585 }
4586 \immediate\write\LWR@quickfile{%
4587 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4588 }
4589 \immediate\write\LWR@quickfile{exit}
4590 \immediate\closeout\LWR@quickfile
4591 \end{LWRwriteconf}

```

## 40.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File lwarp\_mathjax.txt

The default MATHJAX script used by lwarp when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

\MathJaxFilename determines which script file is copied into the HTML pages, and defaults to lwarp\_mathjax.txt. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy lwarp\_mathjax.txt to a new file, make changes while keeping lwarp's adjustments for equation numbering and starred macros, and use \MathJaxFilename to select the new filename.

**Config file:**

```

4592 \begin{LWRwriteconf}
4593 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4594 <script>
4595 // Lwarp MathJax emulation code
4596 //
4597 // Based on code by Davide P. Cervone.
4598 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4599 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4600 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4601 //
4602 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4603 //
4604 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4605 // subequations? is 0 usually, 1 if inside subequations.
4606 // section is a string printed as-is, or empty.
4607 // number is auto-incremented by MathJax between equations.
4608 //
4609 MathJax = {
4610   subequations: "0",
4611   section: "",
4612   loader: {
4613     load: ['[tex]/tagformat', '[tex]/textmacros'],
4614   },

```

```
4615 startup: {
4616   ready() {
4617     // These would be replaced by import commands if you wanted to make
4618     // a proper extension.
4619     const Configuration = MathJax._.input.tex.Configuration.Configuration;
4620     const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4621     const Macro = MathJax._.input.tex.Symbol.Macro;
4622     const TexError = MathJax._.input.tex.TexError.default;
4623     const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4624     const expandable = MathJax._.util.Options.expandable;
4625
4626     // Insert the replacement string into the TeX string, and check
4627     // that there haven't been too many macro substitutions (prevents
4628     // infinite loops).
4629     const useArgument = (parser, text) => {
4630       parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4631       parser.i = 0;
4632       if (++parser.macroCount > parser.configuration.options.maxMacros) {
4633         throw new TexError('MaxMacroSub1',
4634           'MathJax maximum macro substitution count exceeded; ' +
4635           'is there a recursive macro call?');
4636       }
4637     }
4638
4639     // Create the command map for:
4640     // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \gsub, \seteqnumber
4641     new CommandMap('Lwarp-macros', {
4642       ifstar: 'IfstarFunction',
4643       ifnextchar: 'IfnextcharFunction',
4644       ifblank: 'IfblankFunction',
4645       ifstrequal: 'IfstrequalFunction',
4646       gsubstitute: 'GsubstituteFunction',
4647       seteqnumber: 'SeteqnumberFunction'
4648     }, {
4649       // This function implements an ifstar macro.
4650       IfstarFunction(parser, name) {
4651         const resultstar = parser.GetArgument(name);
4652         const resultnostar = parser.GetArgument(name);
4653         const star = parser.GetStar(); // true if there is a *
4654         useArgument(parser, star ? resultstar : resultnostar);
4655       },
4656
4657       // This function implements an ifnextchar macro.
4658       IfnextcharFunction(parser, name) {
4659         let whichchar = parser.GetArgument(name);
4660         if (whichchar.match(/^(?:\0x[0-9A-F]+|[0-9]+)$/i)) {
4661           // $ syntax highlighting
4662           whichchar = String.fromCodePoint(parseInt(whichchar));
4663         }
4664         const resultnextchar = parser.GetArgument(name);
4665         const resultnotnextchar = parser.GetArgument(name);
4666         const gotchar = (parser.GetNext() === whichchar);
4667         useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4668       },
4669
4670       // This function implements an ifblank macro.
4671       IfblankFunction(parser, name) {
4672         const blankarg = parser.GetArgument(name);
4673         const resultblank = parser.GetArgument(name);
4674         const resultnotblank = parser.GetArgument(name);
```

```

4675     const isblank = (blankarg.trim() == "");
4676     useArgument(parser, isblank ? resultblank : resultnotblank);
4677 },
4678
4679 // This function implements an ifstrequal macro.
4680 IfstrequalFunction(parser, name) {
4681     const strequalfirst = parser.GetArgument(name);
4682     const strequalsecond = parser.GetArgument(name);
4683     const resultequal = parser.GetArgument(name);
4684     const resultnotequal = parser.GetArgument(name);
4685     const isequal = (strequalfirst == strequalsecond);
4686     useArgument(parser, isequal ? resultequal : resultnotequal);
4687 },
4688
4689 // This function implements a gsub macro.
4690 GsubstituteFunction(parser, name) {
4691     const gsubfirst = parser.GetArgument(name);
4692     const gsubsecond = parser.GetArgument(name);
4693     const gsubthird = parser.GetArgument(name);
4694     let gsubresult=gsubfirst.replace(gsubsecond, gsubthird);
4695     useArgument(parser, gsubresult);
4696 },
4697
4698 // This function modifies the equation numbers.
4699 SeteqnumberFunction(parser, name) {
4700     // Get the macro parameters
4701     const star = parser.GetStar(); // true if there is a *
4702     const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4703     const newsubequations = parser.GetArgument(name); // the subequations argument
4704     const neweqsection = parser.GetArgument(name); // the eq section argument
4705     const neweqnumber = parser.GetArgument(name); // the eq number argument
4706     MathJax.config.subequations=newsubequations ; // a string with boolean meaning
4707     MathJax.config.section=neweqsection ; // a string with numeric meaning
4708     parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4709 }
4710
4711 });
4712
4713 // Create the Lwarp-macros package
4714 Configuration.create('Lwarp-macros', {
4715     handler: {macro: ['Lwarp-macros']}
4716 });
4717
4718 MathJax.startup.defaultReady();
4719
4720 // For forward references:
4721 MathJax.startup.input[0].preFilters.add(({math}) => {
4722     if (math.inputData.recompile){
4723         MathJax.config.subequations = math.inputData.recompile.subequations;
4724         MathJax.config.section = math.inputData.recompile.section;
4725     }
4726 });
4727 MathJax.startup.input[0].postFilters.add(({math}) => {
4728     if (math.inputData.recompile){
4729         math.inputData.recompile.subequations = MathJax.config.subequations;
4730         math.inputData.recompile.section = MathJax.config.section;
4731     }
4732 });
4733
4734 // For \left, \right with unicode-math:

```

```

4735     const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4736     const {Symbol} = MathJax._.input.tex.Symbol;
4737     const {MapHandler} = MathJax._.input.tex.MapHandler;
4738     const delimiter = MapHandler.getMap('delimiter');
4739     delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4740     delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4741     delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4742     delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4743     delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4744     delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4745     delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4746     delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4747     delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4748     delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4749     delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4750     delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4751     delimiter.add('\Lbrak', new Symbol('\Lbrak', '\u27EC'));
4752     delimiter.add('\Rbrak', new Symbol('\Rbrak', '\u27ED'));
4753     delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4754     delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4755     delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4756     delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4757     delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4758     delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4759     delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4760     delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4761     delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4762     delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4763     delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
4764     delimiter.add('\rangedot', new Symbol('\rangedot', '\u2992'));
4765     delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4766     delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4767     delimiter.add('\lparengtr', new Symbol('\lparengtr', '\u2995'));
4768     delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4769     delimiter.add('\lblkbrbrak', new Symbol('\lblkbrbrak', '\u2997'));
4770     delimiter.add('\rblkbrbrak', new Symbol('\rblkbrbrak', '\u2998'));
4771     delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4772     delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4773     delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4774     delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4775     delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4776     delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4777     delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4778   } // ready
4779 }, // startup
4780
4781 tex: {
4782   packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4783   tags: "ams",
4784   tagformat: {
4785     number: function (n) {
4786       if(MathJax.config.subequations==0)
4787         return(MathJax.config.section + n);
4788       else
4789         return(MathJax.config.section + String.fromCharCode(96+n));
4790     },
4791   },
4792 },
4793 }
4794 </script>

```



```

4795
4796 <script
4797     id="MathJax-script"
4798     src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
4799 ></script>
4800 \end{filecontents*}
4801 % \end{Verbatim}% for syntax highlighting
4802 \end{LWRwriteconf}

```

## 40.12 lwarpmk.lua — lwarpmk option

Opt lwarpmk

Creates a local copy of *lwarpmk*.

Prog lwarpmk

Command-line utility to process lwarp files and images.

[parallel processing](#) lateximages and SVG math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the lwarpmk option was given to lwarp.

```

4803 \begin{LWRcreatelwarpmk}

4804 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4805 #!/usr/bin/env texlua
4806
4807 -- Copyright 2016-2022 Brian Dunn
4808
4809
4810 printversion = "v0.908"
4811 requiredconfversion = "2" -- also at *lwarpmk.conf
4812
4813 function printhelp ()
4814 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.");
4815 end
4816
4817
4818 function printusage ()
4819 --
4820 -- Print the usage of the lwarpmk command:
4821 --
4822 print ( [[
4823
4824 lwarpmk print [-p project]: Compile the print version if necessary.
4825 lwarpmk print1 [-p project]: Forced single compile of the print version.
4826 lwarpmk printindex [-p project]: Process print indexes.
4827 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4828 lwarpmk html [-p project]: Compile the HTML version if necessary.
4829 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4830 lwarpmk htmlindex [-p project]: Process HTML indexes.
4831 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.

```

```

4832 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4833 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4834 lwarpmk pdftohtml [-p project]:
4835     For use with latexmk or a Makefile:
4836     Converts project_html.pdf to project_html.html and individual HTML files.
4837     Finishes the HTML conversion even if there was a compile error.
4838 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4839 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4840 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4841     *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4842     *_html.pdf, *_html.html, *_html.sidetoc
4843 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4844 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4845 lwarpmk -v: Print the version number.
4846 lwarpmk -h: Print this help message.
4847 lwarpmk --help: Print this help message.
4848
4849 ]] )
4850 -- printconf ( )
4851 end
4852
4853
4854 function splitfilename ( pathandfilename )
4855 --
4856 -- Separates out the path and extension from a filename.
4857 -- Returns path, filename with extension, and extension.
4858 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4859 --
4860 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code\_snippets:
4861 --     split_filename_in_to_path_filename_and_extension
4862 --
4863     if lfs.attributes(pathandfilename,"mode") == "directory" then
4864         local strPath = pathandfilename:gsub("[\\/]$", "") -- $ (syntax highlighting)
4865         return strPath.."\\", "", ""
4866     end
4867     pathandfilename = pathandfilename.."."
4868     return pathandfilename:match("^(-)([^\\"/]-)%.[^\\"/%.]-%.?.$")
4869 end
4870
4871
4872 function splitfile (destfile,sourcefile)
4873 --
4874 -- Split one large sourcefile into a number of files,
4875 -- starting with destfile.
4876 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4877 -- If lwarp is in use, sets usinglwarp.
4878 --
4879 usinglwarp = false ;
4880 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4881 local sfile = io.open(sourcefile)
4882 io.output(destfile)
4883 for line in sfile:lines() do
4884     i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|");
4885     if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4886         -- split the file
4887         io.output(newfilename) ;
4888     else
4889         if ( (i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4890             -- verified the use of \usepackage{lwarp}
4891             usinglwarp = true ;

```

```
4892 else
4893   -- not a splitpoint
4894   io.write (line .. "\n") ;
4895 end end
4896 end -- do
4897 io.close(sfile)
4898 if ( usinglwarp == false ) then
4899   print ("lwarpmk: ===")
4900   print ("lwarpmk: \\usepackage{lwarp} was not detected.")
4901   print ("lwarpmk: The HTML output will not be correct.")
4902   print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
4903   print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4904   print ("lwarpmk: ===")
4905 end
4906 end -- function
4907
4908
4909 function cvalueerror ( line, linenum , cvalue )
4910 --
4911 -- Incorrect value, so print an error and exit.
4912 --
4913   print ("lwarpmk: ===")
4914   print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4915   print (
4916     "lwarpmk: incorrect variable value \"" .. cvalue ..
4917     "\" in lwarpmk.conf.\n"
4918   ) ;
4919   print ("lwarpmk: ===")
4920 --   printconf () ;
4921   os.exit(1) ;
4922 end
4923
4924
4925 function printhowtorecompile ()
4926 -- Tells the user how to recompile to regenerate the configuration files.
4927   print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4928   print ("lwarpmk:  must be updated. To do so, recompile" )
4929   print ("lwarpmk:  ", sourcename..".tex" )
4930   if ( printlatexcmd == "" ) then
4931     print ("lwarpmk:  using xe/luatex/pdflatex," )
4932   else
4933     print ("lwarpmk:  using the command:")
4934     print ("lwarpmk:  ", printlatexcmd )
4935   end
4936   print ("lwarpmk:  then use lwarpmk again.")
4937 end -- printhowtorecompile
4938
4939
4940 function ignoreconf ()
4941 -- Global argument index
4942 argindex = 2
4943 end
4944
4945 function loadconf ()
4946 --
4947 -- Load settings from the project's "lwarpmk.conf" file:
4948 --
4949 -- Default configuration filename:
4950 local conffile = "lwarpmk.conf"
4951 local confroot = "lwarpmk"
```

```
4952 -- Global argument index
4953 argindex = 2
4954 -- Optional configuration filename:
4955 if ( arg[argindex] == "-p" ) then
4956     argindex = argindex + 1
4957     confroot = arg[argindex]
4958     conffile = confroot.."lwarpmkconf"
4959     argindex = argindex + 1
4960 end
4961 -- Additional defaults:
4962 confversion = "0"
4963 opsystem = "Unix"
4964 imagesdirectory = "lateximages"
4965 imagesname = "image-"
4966 latexmk = "false"
4967 printlatexcmd = ""
4968 HTMLlatexcmd = ""
4969 printindexcmd = ""
4970 HTMLindexcmd = ""
4971 latexmkindexcmd = ""
4972 -- to be removed:
4973 -- indexprog = "makeindex"
4974 -- makeindexstyle = "lwarp.ist"
4975 -- xindylanguage = "english"
4976 -- xindycodepage = "utf8"
4977 -- xindystyle = "lwarp.xdy"
4978 -- pdftotextenc = "UTF-8"
4979 glossarycmd = "makeglossaries"
4980 -- Verify the file exists:
4981 if ( lfs.attributes(conffile,"mode")==nil ) then
4982     -- file not exists
4983     print ("lwarpmk: ===")
4984     print ("lwarpmk: File \" .. conffile ..\" does not exist.")
4985     print ("lwarpmk: Move to the project's source directory,")
4986     print ("lwarpmk: recompile using pdflatex, xelatex, or luatex,")
4987     print ("lwarpmk: then try using lwarpmk again.")
4988     if ( arg[argindex] ~= nil ) then
4989         print (
4990             "lwarpmk: (\" .. confroot ..
4991             "\" does not appear to be a project name.)"
4992         )
4993     end
4994     print ("lwarpmk: ===")
4995     printhelp () ;
4996     os.exit(1) -- exit the entire lwarpmk script
4997 else -- file exists
4998 -- Read the file:
4999 print ("lwarpmk: Reading " .. conffile ..".")
5000 local cfile = io.open(conffile)
5001 -- Scan each line, parsing each line as: name = [[string]]
5002 local linenum = 0
5003 for line in cfile:lines() do -- scan lines
5004 linenum = linenum + 1
5005 i,j,cvarname,cvalue = string.find (line,"([%w-]*)%s*=%s*%[[^]]*%]");
5006 -- Error if incorrect enclosing characters:
5007 if ( i == nil ) then
5008     print ("lwarpmk: ===")
5009     print ("lwarpmk: " .. linenum .. " : " .. line );
5010     print ("lwarpmk: Incorrect entry in " .. conffile ..".\n" );
5011     print ("lwarpmk: ===")
```

```
5012 -- printconf () ;
5013 os.exit(1) ;
5014 end -- nil
5015 if ( cvarname == "confversion" ) then
5016   confversion = cvalue
5017 elseif ( cvarname == "opssystem" ) then
5018   -- Verify choice of opssystem:
5019   if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
5020     opssystem = cvalue
5021   else
5022     cvalueerror ( line, linenum , cvalue )
5023   end
5024 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
5025 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
5026 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
5027 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
5028 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
5029 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
5030 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
5031 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
5032 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
5033 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
5034 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
5035 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
5036 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
5037 else
5038   print ("lwarpmk: ===")
5039   print ("lwarpmk: " .. linenum .. " : " .. line ) ;
5040   print (
5041     "lwarpmk: Incorrect variable name \" .. cvarname .. "\" in " ..
5042     conffile .. ".\n"
5043   ) ;
5044   print ("lwarpmk: ===")
5045 -- printconf () ;
5046 os.exit(1) ;
5047 end -- cvarname
5048 end -- do scan lines
5049 io.close(cfile)
5050 end -- file exists
5051 -- Error if sourcename is "lwarp".
5052 -- This could happen if a local copy of lwarp has recently been recompiled.
5053 if sourcename=="lwarp" then
5054   print ("lwarpmk: ===")
5055   print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5056   print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5057   print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5058   print ("lwarpmk: In your project directory, recompile your project")
5059   print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5060   print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5061   print ("lwarpmk: and you may again use lwarpmk.")
5062   print ("lwarpmk: ===")
5063   os.exit(1)
5064 end -- sourcename of "lwarp"
5065 -- Select some operating-system commands:
5066 if opssystem=="Unix" then -- For Unix / Linux / Mac OS:
5067   rmname = "rm"
5068   mvname = "mv"
5069   cpname = "cp"
5070   touchnamepre = "touch"
5071   touchnamepost = ""
```

```
5072     newtouchname = "touch"
5073     dirslash = "/"
5074     opquote= "\"
5075     cmdgroupopenname = " ( "
5076     cmdgroupclosename = " ) "
5077     seqname = " && "
5078     bgrname = " &"
5079 elseif opsystem=="Windows" then -- For Windows
5080     rmname = "DEL"
5081     mvname = "MOVE"
5082     cpname = "COPY"
5083     touchnamepre = "COPY /b"
5084     touchnamepost = "+,,"
5085     newtouchname = "echo empty >"
5086     dirslash = "\\"
5087     opquote= "\"
5088     cmdgroupopenname = ""
5089     cmdgroupclosename = ""
5090     seqname = " & "
5091     bgrname = ""
5092 else
5093     print ("lwarpmk: ===")
5094     print ("lwarpmk: Select Unix or Windows for opsystem." )
5095     print ("lwarpmk: ===")
5096     os.exit(1)
5097 end --- for Windows
5098 -- Warning if the operating system does not appear to be correct,
5099 -- in case files were transferred to another system.
5100 if ( (package.config:sub(1,1)) ~= dirslash ) then
5101     print ("lwarpmk: ===")
5102     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
5103     printhowtorecompile ()
5104     print ("lwarpmk: ===")
5105     os.exit(1)
5106 end
5107 -- Error if the configuration file's version is not current:
5108 if ( confversion ~= requiredconfversion ) then
5109     print ("lwarpmk: ===")
5110     printhowtorecompile ()
5111     print ("lwarpmk: ===")
5112     os.exit(1)
5113 end
5114 end -- loadconf
5115
5116
5117 function executecheckerror ( executecommands , errormessage )
5118 --
5119 -- Execute an operating system call,
5120 -- and maybe exit with an error message.
5121 --
5122 local err
5123 err = os.execute ( executecommands )
5124 if ( err ~= 0 ) then
5125     print ("lwarpmk: ===")
5126     print ("lwarpmk: " .. errormessage )
5127     print ("lwarpmk: ===")
5128     os.exit(1)
5129 end
5130 end -- executecheckerror
5131
```

```
5132
5133 function refreshdate ()
5134 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5135 end
5136
5137
5138
5139 function reruntoget (filesorce)
5140 --
5141 -- Scan the LaTeX log file for the phrase "Rerun to get",
5142 -- indicating that the file should be compiled again.
5143 -- Return true if found.
5144 --
5145 local fsource = io.open(filesorce)
5146 for line in fsource:lines() do
5147 if ( string.find(line,"Rerun to get") ~= nil ) then
5148     io.close(fsource)
5149     return true
5150 end -- if
5151 end -- do
5152 io.close(fsource)
5153 return false
5154 end
5155
5156
5157
5158 function onetime (latexcmd, fsuffix)
5159 --
5160 -- Compile one time, return true if should compile again.
5161 -- fsuffix is "" for print, "_html" for HTML output.
5162 --
5163 print("lwarpmk: Compiling with: " .. latexcmd)
5164 executecheckerror (
5165     latexcmd ,
5166     "Compile error."
5167 )
5168 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
5169 end
5170
5171
5172 function manytimes (latexcmd, fsuffix)
5173 --
5174 -- Compile up to five times.
5175 -- fsuffix is "" for print, "_html" for HTML output
5176 --
5177 if onetime(latexcmd, fsuffix) == true then
5178 if onetime(latexcmd, fsuffix) == true then
5179 if onetime(latexcmd, fsuffix) == true then
5180 if onetime(latexcmd, fsuffix) == true then
5181 if onetime(latexcmd, fsuffix) == true then
5182 end end end end end
5183 end
5184
5185
5186 function verifyfileexists (filename)
5187 --
5188 -- Exit if the given file does not exist.
5189 --
5190 if (lfs.attributes ( filename , "modification" ) == nil ) then
5191     print ("lwarpmk: ===")
```

```
5192 print ("lwarpmk: " .. filename .. " not found." ) ;
5193 print ("lwarpmk: ===")
5194 os.exit (1) ;
5195 end
5196 end
5197
5198
5199
5200 function pdftohtml ()
5201 --
5202 -- Convert <project>_html.pdf into HTML files:
5203 --
5204 -- Convert to text:
5205 print ("lwarpmk: Converting " .. sourcename
5206 .. "_html.pdf to " .. sourcename .. "_html.html")
5207 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5208 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5209 if ( err ~= 0 ) then
5210 print ("lwarpmk: ===")
5211 print ("lwarpmk: Ensure that the Poppler utilities are installed." )
5212 print ("lwarpmk: See the Lwarp manual: 'Installing additional utilities'.")
5213 print ("lwarpmk: ===")
5214 os.exit(1)
5215 end
5216 -- Split the result into individual HTML files:
5217 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5218 end
5219
5220
5221 function removeaux ()
5222 --
5223 -- Remove auxiliary files:
5224 -- All .aux files are removed since there may be many bbl*.aux files.
5225 -- Also removes sourcename_html.pdf, sourcename_html.html,
5226 -- and sourcename_html.sidetoc, plus comment_*.cut.
5227 --
5228 os.execute ( rmname .. " *.aux " ..
5229 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5230 sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5231 sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5232 sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5233 " *.idx " ..
5234 " *.ind " ..
5235 sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5236 sourcename .. ".log " .. sourcename .. "_html.log " ..
5237 sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5238 sourcename .. "_html.pdf " ..
5239 sourcename .. "_html.html " ..
5240 sourcename .. "_html.sidetoc " ..
5241 " *_html_inc.* " ..
5242 " comment_*.cut"
5243 )
5244 end
5245
5246 function checkhtmlpdfexists ()
5247 --
5248 -- Error if the HTML document does not exist.
5249 -- The lateximages are drawn from the HTML PDF version of the document,
5250 -- so "lwarpmk html" must be done before "lwarpmk limages".
5251 --
```



```
5252 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5253 if ( htmlpdffile == nil ) then
5254     print ("")
5255     print ("lwarpmk: ===")
5256     print ("lwarpmk: The HTML version of the document does not exist.")
5257     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5258     print ("lwarpmk: ===")
5259     os.exit(1)
5260 end
5261 io.close (htmlpdffile)
5262 end -- checkhtmlpdfexists
5263
5264
5265 function warnlimages ()
5266 --
5267 -- Warning of a missing <sourcename>-images.txt file:
5268     print ("lwarpmk: ===")
5269     print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
5270     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5271     print ("lwarpmk: or the file has been deleted somehow.")
5272     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5273     print ("lwarpmk: and recreate \"\" .. sourcename .. "-images.txt\".")
5274     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5275     print ("lwarpmk: then \"\" .. sourcename .. "-images.txt\" will never exist, and")
5276     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5277     print ("lwarpmk: ===")
5278 end -- warnlimages
5279
5280
5281 function warnlimagesrecompile ()
5282 -- Warning if must recompile before creating limages:
5283     print ("")
5284     print ("lwarpmk: ===")
5285     print ("lwarpmk: Cross-references are not yet correct.")
5286     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5287     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5288     print ("lwarpmk: ===")
5289 end --warnlimagesrecompile
5290
5291
5292 function checklimages ()
5293 --
5294 -- Check <sourcename>.txt to see if need to recompile first.
5295 -- If any entry has a page number of zero, then there were incorrect images.
5296 --
5297 print ("lwarpmk: Checking for a valid \" .. sourcename .. "-images.txt file.")
5298 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5299 if ( limagesfile == nil ) then
5300     warnlimages ()
5301     os.exit(1)
5302 end
5303 -- Track warning to recompile if find a page 0
5304 local pagezerowarning = false
5305 -- Scan <sourcename>.txt
5306 for line in limagesfile:lines() do
5307     -- lwimgpage is the page number in the PDF which has the image
5308     -- lwimghash is true if this filename is a hash
5309     -- lwimgname is the lateximage filename root to assign for the image
5310     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5311     -- For each entry:
```

```

5312   if ( (i~=nil) ) then
5313       -- If the page number is 0, image references are incorrect
5314       -- and must recompile the source document:
5315       if ( lwimgpage == "0" ) then
5316           pagezerowarning = true
5317       end
5318   end -- if i~=nil
5319 end -- do
5320 -- The last line should be |end|end|end|.
5321 -- If not, the compile must have aborted, and the images are incomplete.
5322 if ( lwimgpage ~= "end" ) then
5323     warnlimagesrecompile()
5324     os.exit(1) ;
5325 end
5326 if ( pagezerowarning ) then
5327     warnlimagesrecompile()
5328     os.exit(1) ;
5329 end -- pagezerowarning
5330 end -- checklimages
5331
5332
5333 function createuniximage ( lwimgfullname )
5334 --
5335 -- Create one lateximage for Unix / Linux / Mac OS.
5336 --
5337 executecheckerror (
5338     cmdgroupopename ..
5339     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5340     sourcename .. "_html.pdf " ..
5341     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5342     seqname ..
5343     -- Crop the image:
5344     "pdfcrop --hires --margins \"0 1 0 0\" " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5345     lwimgpage .. ".pdf " ..
5346     imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5347     seqname ..
5348     -- Convert the image to svg:
5349     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5350     imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5351     seqname ..
5352     -- Remove the temporary files:
5353     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5354     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5355     cmdgroupclosename .. " >/dev/null " .. bname
5356     ,
5357     "File error trying to convert " .. lwimgfullname
5358 )
5359 -- Every 32 images, wait for completion at below normal priority,
5360 -- allowing other image tasks to catch up.
5361 numimageprocesses = numimageprocesses + 1
5362 if ( numimageprocesses > 32 ) then
5363     numimageprocesses = 0
5364     print ( "lwarpmk: waiting" )
5365     executecheckerror ( "wait" , "File error trying to wait." )
5366 end
5367 end -- createuniximage
5368
5369
5370 function createwindowsimage ( lwimgfullname )
5371 --

```

```

5372 -- Create one lateximage for Windows.
5373 --
5374 -- Every 32 images, wait for completion at below normal priority,
5375 -- allowing other image tasks to catch up.
5376 numimageprocesses = numimageprocesses + 1
5377 if ( numimageprocesses > 32 ) then
5378     numimageprocesses = 0
5379     thiswaitcommand = "/WAIT /BELOWNORMAL"
5380     print ( "lwarpmk: waiting" )
5381 else
5382     thiswaitcommand = ""
5383 end
5384 -- Execute the image generation command
5385 executecheckerror (
5386     "start /B " .. thiswaitcommand .. " \\" lwarp_one_limage " ..
5387     lwimgpage .. " " ..
5388     lwimghash .. " " ..
5389     lwimgname .. " " ..
5390     sourcename .. " <nul >nul"
5391     ,
5392     "File error trying to create image."
5393 )
5394 end -- createwindowsimage
5395
5396
5397 function createonelateximage ( line )
5398 --
5399 -- Given the next line of <sourcename>.txt, convert a single image.
5400 --
5401 -- lwimgpage is the page number in the PDF which has the image
5402 -- lwimghash is true if this filename is a hash
5403 -- lwimgname is the lateximage filename root to assign for the image
5404 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.)|(.)|")
5405 -- For each entry:
5406 if ( (i~=nil) ) then
5407     -- Skip if the page number is 0:
5408     if ( lwimgpage == "0" ) then
5409         pagezerowarning = true
5410     -- Skip if the page number is "end":
5411     else if ( lwimgpage == "end" ) then
5412     else
5413         -- Skip is this image is hashed and already exists:
5414         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5415         if (
5416             (lwimghash ~= "true") or
5417             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5418         )
5419         then -- not hashed or not exists:
5420             -- Print the name of the file being generated:
5421             print ( "lwarpmk: " .. lwimgname )
5422             -- Touch/create the dest so that only once instance tries to build it:
5423             executecheckerror (
5424                 newtouchname .. " " .. lwimgfullname ,
5425                 "File error trying to touch " .. lwimgfullname
5426             )
5427             -- Separate out the image into its own single-page pdf:
5428             if opsystem=="Unix" then
5429                 createuniximage (lwimgfullname)
5430             elseif opsystem=="Windows" then
5431                 createwindowsimage (lwimgfullname)

```

```
5432         end
5433     end -- not hashed or not exists
5434 end -- not page "end"
5435 end -- not page 0
5436 end -- not nil
5437 end -- createonelateximage
5438
5439
5440 function createlateximages ()
5441 --
5442 -- Create lateximages based on <sourcename>-images.txt:
5443 --
5444 -- See if the document must be recompiled first:
5445 checklimages ()
5446 -- See if the HTML version exists:
5447 checkhtmlpdfexists ()
5448 -- Attempt to create the lateximages:
5449 print ("lwarpmk: Creating lateximages.")
5450 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5451 if ( limagesfile == nil ) then
5452     warnlimages ()
5453     os.exit(1)
5454 end
5455 -- Create the lateximages directory, ignore error if already exists
5456 err = os.execute("mkdir " .. imagesdirectory)
5457 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5458 if opsystem=="Windows" then
5459     executecheckerror (
5460         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5461         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5462     )
5463 end -- create lwarp_one_limage.cmd
5464 -- Track the number of parallel processes
5465 numimageprocesses = 0
5466 -- Track warning to recompile if find a page 0
5467 pagezerowarning = false
5468 -- Scan <sourcename>.txt
5469 for line in limagesfile:lines() do
5470     createonelateximage ( line )
5471 end -- do
5472 io.close(limagesfile)
5473 print ( "lwarpmk limages: ===")
5474 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5475 print ( "lwarpmk limages:  before reloading the page." )
5476 print ( "lwarpmk limages: ===")
5477 print ( "lwarpmk limages: Done." )
5478 if ( pagezerowarning == true ) then
5479     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5480     print ( "lwarpmk limages:  Enter \"lwarpmk cleanlimages\", then" )
5481     print ( "lwarpmk limages:  recompile the document one more time, then" )
5482     print ( "lwarpmk limages:  repeat \"lwarpmk images\" again." )
5483 end -- pagezerowarning
5484 end -- function
5485
5486
5487 function convertepstopdf ()
5488 --
5489 -- Converts EPS files to PDF files.
5490 -- The filenames are arg[argindex] and up.
5491 -- arg[1] is the command "epstopdf".
```

```
5492 --
5493 ignoreconf ()
5494 for i = argindex , #arg do
5495     if (lfs.attributes(arg[i],"mode")==nil) then
5496         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5497     else
5498         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5499         thispath, thisfilename, thisextension = splitfilename(arg[i])
5500         if ( thispath == nil ) then
5501             os.execute ( "epstopdf " .. arg[i] )
5502         else
5503             os.execute (
5504                 "epstopdf " ..
5505                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5506                 thispath .. thisfilename .. ".pdf"
5507             )
5508         end
5509     end -- if
5510 end -- do
5511 end --function
5512
5513
5514 function convertpdfptosvg ()
5515 --
5516 -- Converts PDF files to SVG files.
5517 -- The filenames are arg[argindex] and up.
5518 -- arg[1] is the command "pdftosvg".
5519 --
5520 ignoreconf ()
5521 for i = argindex , #arg do
5522     if (lfs.attributes(arg[i],"mode")==nil) then
5523         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5524     else
5525         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5526         thispath, thisfilename, thisextension = splitfilename(arg[i])
5527         if ( thispath == nil ) then
5528             os.execute ( "pdftocairo -svg " .. arg[i] )
5529         else
5530             os.execute (
5531                 "pdftocairo -svg " ..
5532                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5533                 thispath .. thisfilename .. ".svg"
5534             )
5535         end
5536     end -- if
5537 end -- do
5538 end --function
5539
5540
5541 -- Force an update and conclude processing:
5542 function updateanddone ()
5543 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5544 refreshdate ()
5545 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5546 print ("lwarpmk: Done.")
5547 end -- function
5548
5549
5550 -- Start of the main code: --
5551
```

```
5552
5553 -- lwarpmk --version :
5554
5555 if (arg[1] == "--version") then
5556   print ( "lwarpmk: " .. printversion )
5557
5558 else -- not --version
5559
5560
5561 -- print intro:
5562
5563 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5564
5565
5566 -- lwarpmk print:
5567
5568 if arg[1] == "print" then
5569   loadconf ()
5570   if ( latexmk == "true" ) then
5571     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5572     executecheckerror (
5573       printlatexcmd ,
5574       "Compile error."
5575     )
5576     print ("lwarpmk: Done.")
5577   else -- not latexmk
5578     verifyfileexists (sourcename .. ".tex") ;
5579     -- See if up to date:
5580     if (
5581       ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5582       (
5583         lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5584         lfs.attributes ( sourcename .. ".pdf" , "modification" )
5585       )
5586     ) then
5587       -- Recompile if not yet up to date:
5588       manytimes(printlatexcmd, "")
5589       print ("lwarpmk: Done.") ;
5590     else
5591       print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5592     end
5593   end -- not latexmk
5594
5595
5596 -- lwarpmk print1:
5597
5598 elseif arg[1] == "print1" then
5599   loadconf ()
5600   verifyfileexists (sourcename .. ".tex") ;
5601   onetime(printlatexcmd, "")
5602   print ("lwarpmk: Done.") ;
5603
5604
5605 -- lwarpmk printindex:
5606 -- Compile the index then touch the source
5607 -- to trigger a recompile of the document:
5608
5609 elseif arg[1] == "printindex" then
5610   loadconf ()
5611   os.execute ( printindexcmd )
```

```
5612 print ("lwarpmk: -----")
5613 updateanddone ()
5614
5615
5616 -- lwarpmk printglossary:
5617 -- Compile the glossary then touch the source
5618 -- to trigger a recompile of the document:
5619
5620 elseif arg[1] == "printglossary" then
5621 loadconf ()
5622 print ("lwarpmk: Processing the glossary.")
5623
5624 os.execute(glossarycmd .. " " .. sourcename)
5625 updateanddone ()
5626
5627
5628 -- lwarpmk html:
5629
5630 elseif arg[1] == "html" then
5631 loadconf ()
5632 if ( latexmk == "true" ) then
5633   print ("lwarpmk: Compiling with: " .. HTMLLatexcmd)
5634   executecheckerror (
5635     HTMLLatexcmd ,
5636     "Compile error."
5637   )
5638   pdftohtml ()
5639   print ("lwarpmk: Done.")
5640 else -- not latexmk
5641   verifyfileexists ( sourcename .. ".tex" ) ;
5642   -- See if exists and is up to date:
5643   if (
5644     ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5645     (
5646       lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5647       lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5648     )
5649   ) then
5650     -- Recompile if not yet up to date:
5651     manytimes(HTMLLatexcmd, "_html")
5652     pdftohtml ()
5653     print ("lwarpmk: Done.")
5654   else
5655     print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5656   end
5657 end -- not latexmk
5658
5659
5660 -- lwarpmk html1:
5661
5662 elseif arg[1] == "html1" then
5663   loadconf ()
5664   verifyfileexists ( sourcename .. ".tex" ) ;
5665   onetime(HTMLLatexcmd, "_html")
5666   pdftohtml ()
5667   print ("lwarpmk: Done.")
5668
5669
5670 -- lwarpmk pdftohtml:
5671 elseif arg[1] == "pdftohtml" then
```

```
5672 loadconf ()
5673 pdftohtml ()
5674
5675
5676 -- lwarpmk htmlindex:
5677 -- Compile the index then touch the source
5678 -- to trigger a recompile of the document:
5679
5680 elseif arg[1] == "htmlindex" then
5681 loadconf ()
5682 os.execute ( HTMLindexcmd )
5683 print ("lwarpmk: -----")
5684 updateanddone ()
5685
5686
5687 -- lwarpmk htmlglossary:
5688 -- Compile the glossary then touch the source
5689 -- to trigger a recompile of the document.
5690 -- The <sourcename>.xdy file is created by the glossaries package.
5691
5692 elseif arg[1] == "htmlglossary" then
5693 loadconf ()
5694 print ("lwarpmk: Processing the glossary.")
5695 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5696 updateanddone ()
5697
5698
5699 -- lwarpmk limages:
5700 -- Scan the <sourcename>.txt file to create lateximages.
5701
5702 elseif arg[1] == "limages" then
5703 loadconf ()
5704 print ("lwarpmk: Processing images.")
5705 createlateximages ()
5706 print ("lwarpmk: Done.")
5707
5708
5709 -- lwarpmk again:
5710 -- Touch the source to trigger a recompile.
5711
5712 elseif arg[1] == "again" then
5713 loadconf ()
5714 updateanddone ()
5715
5716
5717 -- lwarpmk clean:
5718 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5719
5720 elseif arg[1] == "clean" then
5721 loadconf ()
5722 removeaux ()
5723 print ("lwarpmk: Done.")
5724
5725
5726 -- lwarpmk cleanall
5727 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5728 -- and also project.pdf, project.dvi, *.html
5729
5730 elseif arg[1] == "cleanall" then
5731 loadconf ()
```



```
5732 removeaux ()
5733 os.execute ( rmname .. " " ..
5734     sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5735     sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5736     "*.html"
5737 )
5738 print ("lwarpmk: Done.")
5739
5740
5741 -- lwarpmk cleanimages
5742 -- Remove images from the imagesdirectory.
5743
5744 elseif arg[1] == "cleanimages" then
5745 loadconf ()
5746 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5747 print ("lwarpmk: Done.")
5748
5749 -- lwarpmk epstopdf <list of file names>
5750 -- Convert EPS files to PDF using epstopdf
5751 elseif arg[1] == "epstopdf" then
5752 convertepstopdf ()
5753 print ("lwarpmk: Done.")
5754
5755
5756 -- lwarpmk pdftosvg <list of file names>
5757 -- Convert PDF files to SVG using pdftocairo
5758 elseif arg[1] == "pdftosvg" then
5759 convertpdftosvg ()
5760 print ("lwarpmk: Done.")
5761
5762
5763 -- lwarpmk with no argument :
5764
5765 elseif (arg[1] == nil) then
5766 printhelp ()
5767
5768
5769 -- lwarpmk -v:
5770
5771 elseif (arg[1] == "-v" ) then
5772 -- The version number has already been printed
5773 -- by the lwarpmk intro.
5774
5775 -- lwarpmk -h or lwarpmk --help :
5776
5777 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5778 printusage ()
5779
5780
5781 -- Unknown command:
5782
5783 else
5784 printhelp ()
5785 print ("\nlwarpmk: ***** Unknown command \""..arg[1].."\". *****\n")
5786 end
5787
5788 end -- not --version
5789 \end{filecontents*}
5790 % \end{Verbatim}% for syntax highlighting
```

```
5791 \end{LWRcreateLwarpmk}
```

## 41 Stacks

**for HTML output:** 5792 \begin{warpHTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

### 41.1 Assigning depths

initial depths for empty stack entries:

```
5793 \newcommand*\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `LWR@depthfinished`:

```
5794 \newcommand*\LWR@depthfinished}{-4}
5795 \newcommand*\LWR@depthbook}{-2}
5796 \newcommand*\LWR@depthpart}{-1}
5797 \newcommand*\LWR@depthchapter}{0}
5798 \newcommand*\LWR@depthsection}{1}
5799 \newcommand*\LWR@depthsubsection}{2}
5800 \newcommand*\LWR@depthsubsubsection}{3}
5801 \newcommand*\LWR@depthparagraph}{4}
5802 \newcommand*\LWR@depthsubparagraph}{5}
```

Used by `\itemize`, `\enumerate`, `\description`:

```
5803 \newcommand*\LWR@depthlist}{6}
```

Used by `\item`:

```
5804 \newcommand*\LWR@depthlistitem}{7}
5805 \let\LWR@depthdescitem\LWR@depthlistitem
```

### 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```

5806 \newcommand*\LWR@closeone}{% top of the stack
5807 \newcommand*\LWR@closetwo}{
5808 \newcommand*\LWR@closethree}{
5809 \newcommand*\LWR@closefour}{
5810 \newcommand*\LWR@closefive}{
5811 \newcommand*\LWR@closesix}{
5812 \newcommand*\LWR@closeseven}{
5813 \newcommand*\LWR@closeeight}{
5814 \newcommand*\LWR@closenine}{
5815 \newcommand*\LWR@closeten}{
5816 \newcommand*\LWR@closeeleven}{
5817 \newcommand*\LWR@closetwelve}{
5818 \newcommand*\LWR@closethirteen}{
5819 \newcommand*\LWR@closefourteen}{
5820 \newcommand*\LWR@closefifteen}{
5821 \newcommand*\LWR@closesixteen}{
5822 \newcommand*\LWR@closeseventeen}{
5823 \newcommand*\LWR@closeeighteen}{
5824 \newcommand*\LWR@closenineteen}{

```

### 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```

\begin{itemize}
  \item{A}
  \begin{description}
    \item{B}
  \end{description}
\end{itemize}

```

---

```

5825 \newcommand*\LWR@closedepthone}{\LWR@depthnone}% top of the stack
5826 \newcommand*\LWR@closedepthtwo}{\LWR@depthnone}
5827 \newcommand*\LWR@closedepththree}{\LWR@depthnone}
5828 \newcommand*\LWR@closedepthfour}{\LWR@depthnone}
5829 \newcommand*\LWR@closedepthfive}{\LWR@depthnone}
5830 \newcommand*\LWR@closedepthsix}{\LWR@depthnone}
5831 \newcommand*\LWR@closedepthseven}{\LWR@depthnone}
5832 \newcommand*\LWR@closedeptheight}{\LWR@depthnone}
5833 \newcommand*\LWR@closedepthnine}{\LWR@depthnone}
5834 \newcommand*\LWR@closedepthten}{\LWR@depthnone}
5835 \newcommand*\LWR@closedeptheleven}{\LWR@depthnone}
5836 \newcommand*\LWR@closedepthtwelve}{\LWR@depthnone}
5837 \newcommand*\LWR@closedepththirteen}{\LWR@depthnone}
5838 \newcommand*\LWR@closedepthfourteen}{\LWR@depthnone}
5839 \newcommand*\LWR@closedepthfifteen}{\LWR@depthnone}
5840 \newcommand*\LWR@closedepthsixteen}{\LWR@depthnone}
5841 \newcommand*\LWR@closedepthseventeen}{\LWR@depthnone}
5842 \newcommand*\LWR@closedeptheighteen}{\LWR@depthnone}
5843 \newcommand*\LWR@closedepthnineteen}{\LWR@depthnone}

```

## 41.4 Pushing and popping the stack

`\LWR@pushclose`  $\{\langle sectiontype \rangle\}$

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

5844 \NewDocumentCommand{\LWR@pushclose}{m}
5845 {%
5846 \global\let\LWR@close nineteen\LWR@close eighteen%
5847 \global\let\LWR@close eighteen\LWR@close seventeen%
5848 \global\let\LWR@close seventeen\LWR@close sixteen%
5849 \global\let\LWR@close sixteen\LWR@close fifteen%
5850 \global\let\LWR@close fifteen\LWR@close fourteen%
5851 \global\let\LWR@close fourteen\LWR@close thirteen%
5852 \global\let\LWR@close thirteen\LWR@close twelve%
5853 \global\let\LWR@close twelve\LWR@close eleven%
5854 \global\let\LWR@close eleven\LWR@close ten%
5855 \global\let\LWR@close ten\LWR@close nine%
5856 \global\let\LWR@close nine\LWR@close eight%
5857 \global\let\LWR@close eight\LWR@close seven%
5858 \global\let\LWR@close seven\LWR@close six%
5859 \global\let\LWR@close six\LWR@close five%
5860 \global\let\LWR@close five\LWR@close four%
5861 \global\let\LWR@close four\LWR@close three%
5862 \global\let\LWR@close three\LWR@close two%
5863 \global\let\LWR@close two\LWR@close one%
5864 \global\csletcs{LWR@close one}{LWR@printclose#1}%
5865 \global\let\LWR@closedepth nineteen\LWR@closedepth eighteen%
5866 \global\let\LWR@closedepth eighteen\LWR@closedepth seventeen%
5867 \global\let\LWR@closedepth seventeen\LWR@closedepth sixteen%
5868 \global\let\LWR@closedepth sixteen\LWR@closedepth fifteen%
5869 \global\let\LWR@closedepth fifteen\LWR@closedepth fourteen%
5870 \global\let\LWR@closedepth fourteen\LWR@closedepth thirteen%
5871 \global\let\LWR@closedepth thirteen\LWR@closedepth twelve%
5872 \global\let\LWR@closedepth twelve\LWR@closedepth eleven%
5873 \global\let\LWR@closedepth eleven\LWR@closedepth ten%
5874 \global\let\LWR@closedepth ten\LWR@closedepth nine%
5875 \global\let\LWR@closedepth nine\LWR@closedepth eight%
5876 \global\let\LWR@closedepth eight\LWR@closedepth seven%
5877 \global\let\LWR@closedepth seven\LWR@closedepth six%
5878 \global\let\LWR@closedepth six\LWR@closedepth five%
5879 \global\let\LWR@closedepth five\LWR@closedepth four%
5880 \global\let\LWR@closedepth four\LWR@closedepth three%
5881 \global\let\LWR@closedepth three\LWR@closedepth two%
5882 \global\let\LWR@closedepth two\LWR@closedepth one%
5883 \global\csletcs{LWR@closedepth one}{LWR@depth#1}%

```

Error if the deepest depth is no longer `\LWR@depth none`, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5884 \ifdefstring{\LWR@closedepth nineteen}{\LWR@depth none}%
5885   {%
5886   {%
5887     \PackageError{lwarp}%
5888       {The document is nested too deeply for Lwarp}%
5889       {PLEASE inform the Lwarp maintainer!}%
5890   }%
5891 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5892 \newcommand*{\LWR@popclose}
5893 {%
5894 \global\let\LWR@closeone\LWR@closetwo%
5895 \global\let\LWR@closetwo\LWR@closethree%
5896 \global\let\LWR@closethree\LWR@closefour%
5897 \global\let\LWR@closefour\LWR@closefive%
5898 \global\let\LWR@closefive\LWR@closesix%
5899 \global\let\LWR@closesix\LWR@closeseven%
5900 \global\let\LWR@closeseven\LWR@closeeight%
5901 \global\let\LWR@closeeight\LWR@closenine%
5902 \global\let\LWR@closenine\LWR@closeten%
5903 \global\let\LWR@closeten\LWR@closeeleven%
5904 \global\let\LWR@closeeleven\LWR@closetwelve%
5905 \global\let\LWR@closetwelve\LWR@closethirteen%
5906 \global\let\LWR@closethirteen\LWR@closefourteen%
5907 \global\let\LWR@closefourteen\LWR@closefifteen%
5908 \global\let\LWR@closefifteen\LWR@closesixteen%
5909 \global\let\LWR@closesixteen\LWR@closeseventeen%
5910 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5911 \global\let\LWR@closeeighteen\LWR@closenineteen%
5912 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5913 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5914 \global\let\LWR@closedepththree\LWR@closedepthfour%
5915 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5916 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5917 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5918 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5919 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5920 \global\let\LWR@closedepthnine\LWR@closedephten%
5921 \global\let\LWR@closedephten\LWR@closedeptheleven%
5922 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5923 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5924 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5925 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5926 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5927 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5928 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5929 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5930 }

5931 \end{warpHTML}

```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexpparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexpparray{name}{index}{}
```

**for HTML output:** 5932 `\begin{warpHTML}`

`\LWR@setexparray`  $\{\langle name \rangle\} \{\langle index \rangle\} \{\langle contents \rangle\}$

```
5933 \newbool{\LWR@setexparray@doingparhooks}
5934
5935 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```
5936 \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
5937 \setbool{\LWR@doingparhooks}{false}%
5938 \let\LWR@setexparray@par\par%
5939 \let\par\relax%
```

The name of the control sequence is the given name with the index appended.

```
5940 \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```
5941 \ifstrempy{#3}%
5942 \csdef{\LWR@thisexparrayname}{#3}%
5943 \csdef{\LWR@thisexparrayname}{#3}%
```

Restore the paragraph handling:

```
5944 \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
5945 \let\par\LWR@setexparray@par%
5946 }
```


`\LWR@getexparray`  $\{\langle name \rangle\} \{\langle index \rangle\}$

```
5947 \newcommand*{\LWR@getexparray}[2]{%
5948 \@nameuse{#1#2}%
5949 }
```

```
5950 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5951 `\begin{warpall}`

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error  
Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5952 \newcommand{\StartDefiningTabulars}{%
5953 \LWR@traceinfo{StartDefiningTabulars}%
```

```
5954 \warpHTMLOnly{\catcode'\&=\active}%
5955 }
```

`\StopDefiningTabulars` Place after defining something with `&` in it.

```
5956 \newcommand{\StopDefiningTabulars}{%
5957 \LWR@traceinfo{StopDefiningTabulars}%
5958 \warpHTMLOnly{\catcode'\&=4}%
5959 }
```

Bool `LWR@mathmacro`

True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
5960 \newbool{LWR@mathmacro}
5961 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with `$` in it.

```
5962 \newcommand{\StartDefiningMath}{%
5963 \LWR@traceinfo{StartDefiningMath}%
5964 \warpHTMLOnly{\catcode'\$=\active}%
5965 }
```

`\StopDefiningMath` Place after defining something with `$` in it.

```
5966 \newcommand{\StopDefiningMath}{%
5967 \LWR@traceinfo{StopDefiningMath}%
5968 \warpHTMLOnly{\catcode'\$=3}% math shift
5969 }
```

```
5970 \end{warpall}
```

**for HTML output:** 5971 `\begin{warpHTML}`

A definition for `&` in case it is referred to after `\StartDefiningTabulars` but outside a tabular.

```
5972 \StartDefiningTabulars
5973 \protected\def&{%
5974 \PackageWarning{lwarp}{%
5975 An ampersand is being used inside a tabular\MessageBreak
5976 }%
5977 }%
5978 \StopDefiningTabulars

5979 \end{warpHTML}
```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents

may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```
\xpatchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 5980 `\begin{warpall}`

Bool `LWR@dynamicmath` True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
 Default: `false`

```
5981 \newbool{LWR@dynamicmath}
5982 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5983 \newcommand{\inlinemathother}{%
5984 \LWR@traceinfo{inlinemathother}%
5985 \booltrue{LWR@dynamicmath}%
5986 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
5987 \newcommand{\inlinemathnormal}{%
5988 \LWR@traceinfo{inlinemathnormal}%
5989 \boolfalse{LWR@dynamicmath}%
5990 }
```

```
5991 \end{warpall}
```

## 45 HTML entities

**for HTML output:** 5992 `\begin{warpHTML}`

HTML Unicode entities:

```
5993 \let\LWR@origampersand\&
```

`\LWR@fontfortags` `{\langle macro name \rangle}` `{\langle argument \rangle}`



Forces roman TT font for HTML tags.

```

5994 \newrobustcmd*{\LWR@fontfortags}[2]{%
5995     \ifmmode%
5996         \PackageError{lwarp}%
5997             {%
5998                 An HTML tag was generated inside math.\MessageBreak
5999                 This should never occur.\MessageBreak
6000                 Something is broken in Lwarp.\MessageBreak
6001                 Enter 'h' for details%
6002             }%
6003         {(Using #1{#2}.)}%
6004     \else%

```

Used by ltjtbook, platex, and related.

```

6005     \ifdef{\romanencoding}%
6006         {%
6007             \romanencoding{\encodingdefault}%
6008         }%
6009     {%

```

Used by babel:

```

6010         \ifdef{\latintext}
6011             {\latintext}
6012             {\fontencoding\encodingdefault}%
6013         }%
6014     \LWR@print@normalfont%
6015     \LWR@origttfamily%
6016     \fi%
6017 }

```

`\HTMLentity`  $\{\langle entitytag \rangle\}$

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6018 \newcommand*{\HTMLentity}[1]{%
6019 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
6020     \begingroup%
6021     \LWR@hook@processingtags%
6022     \LWR@fontfortags{HTMLentity}{\detokenize{#1}}%
6023     \protect\LWR@origampersand\LWR@isolate{#1};%
6024     \endgroup%
6025 % \LWR@traceinfo{HTMLentity done}%
6026 }

```

`\HTMLUnicode`  $\{\langle hex\_unicode \rangle\}$

```

6027 \newcommand*{\HTMLUnicode}[1]{\HTMLentity{\LWR@origpound}{x#1}}

```

`\&`

```

6028 \renewrobustcmd*{\&}{\HTMLentity{amp}}

```

`\textless`

```
6029 \let\LWR@origtextless\textless
6030 \renewrobustcmd*{\textless}{\HTMLentity{lt}}
```

\textgreater

```
6031 \let\LWR@origtextgreater\textgreater
6032 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}
```

```
6033 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to \HomeHTMLFilename.html. The filenames of additional sections start with \HTMLFilename, to which is appended a section number or a simplified section name, depending on FileSectionNames.

**for HTML & PRINT:** 6034 \begin{warpall}

\BaseJobname The \jobname of the printed version, even if currently compiling the HTML version. I.e. this is the \jobname without \_html appended. This is used to set \HomeHTMLFilename if the user did not provide one.

```
6035 \providecommand*\BaseJobname{\jobname}
```

\HTMLFilename The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

```
6036 \providecommand*\HTMLFilename{}
```

\HomeHTMLFilename The filename of the home page, defaulting to the \BaseJobname. See section 7.6.1.

```
6037 \providecommand*\HomeHTMLFilename{\BaseJobname}
```

\SetHTMLFileNumber {<number>}

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
6038 \newcommand*\SetHTMLFileNumber[1]{%
6039   \setcounter{LWR@htmlfilenumber}{#1}%
6040 }
```

Bool FileSectionNames

Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
6041 \newbool{FileSectionNames}
6042 \booltrue{FileSectionNames}
```

```
6043 \end{warpall}
```

**for HTML output:** 6044 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
6045 \newcounter{LWR@HTMLpagenum}
6046 \setcounter{LWR@HTMLpagenum}{0}
```

Ctrl LWR@htmlseqfilenumber

A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilenumber, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-\*, and the last page is also labelled \BaseJobname-autofile-last.

```
6047 \newcounter{LWR@htmlseqfilenumber}
6048 \setcounter{LWR@htmlseqfilenumber}{0}
```

Bool LWR@setseqfilelabel

At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
6049 \newbool{LWR@setseqfilelabel}
6050 \setbool{LWR@setseqfilelabel}{false}
```

Ctrl LWR@htmlfilenumber

Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileNumber to create groups of numbered nodes.

```
6051 \newcounter{LWR@htmlfilenumber}
6052 \setcounter{LWR@htmlfilenumber}{0}
```

\LWR@htmlsectionfilename {<htmlfilenumber or name>}

Prints the filename for a given section: \HTMLFilename{>filenumber/name.html

```
6053 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6054 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
6055 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6056 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
6057 % \LWR@traceinfo{about to assign temp}%
6058 \LWR@sanitize{#1}%
6059 \LWR@traceinfo{about to compare with ??}%
6060 \ifdefstring{\LWR@sanitized}{??}
6061   {\LWR@traceinfo{found ??}}%
6062   {\LWR@traceinfo{not found ??}}%
6063 \LWR@traceinfo{about to compare with zero or empty}%
6064 \ifboolexpr{
6065   test {\ifdefstring{\LWR@sanitized}{0}} or
6066   test {\ifdefstring{\LWR@sanitized}{}} or
6067   test {\ifdefstring{\LWR@sanitized}{??}}
```

```

6068 }
6069 {%
6070   \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6071   \HomeHTMLFilename.html%
6072 }%

```

For a  $\LaTeX$  section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

6073 {%
6074   \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
6075   \ifboolexpr{
6076     test{\ifdefvoid{\HTMLFilename}} and
6077     (
6078       test{\ifdefstring{\LWR@sanitized}{Index}} or
6079       test{\ifdefstring{\LWR@sanitized}{index}}
6080     )
6081   }%
6082   {%
6083     \LWR@traceinfo{Adding a zero to the index filename.}%
6084     \LWR@sanitized-0.html%
6085   }%

```

Otherwise, create a filename with the chosen prefix:

```

6086   {%
6087     \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6088   }%
6089 }%
6090 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6091 \endgroup%
6092 }

```

`\LWR@htmlrefsectionfilename`  $\{\langle label \rangle\}$

Prints the filename for the given label

```

6093 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6094   \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

`\LWR@nullfonts` to allow math in a section name.

```

6095   \begingroup%
6096   \LWR@nullfonts%
6097   \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6098   \endgroup%
6099   \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6100 }

```

```

6101 \end{warpHTML}

```

## 47 Homepage link

**for HTML & PRINT:** `6102 \begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```
6103 \newcommand{\linkhomename}{Home}
6104 \end{warpaLL}
```

**for HTML output:** 6105 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
6106 \newcommand*\LinkHome{%
6107   \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
6108 }

6109 \end{warpHTML}
```

**for PRINT output:** 6110 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```
6111 \AtBeginDocument{
6112   \@ifundefined{hyperref}{
6113     \newcommand*\LinkHome{%
6114       \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6115     }
6116   }{
6117     \newcommand*\LinkHome{%
6118       \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6119     }
6120   }
6121 }
6122
6123 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

6124 \end{warpprint}
```

**for HTML output:** 6125 `\begin{warpHTML}`

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```
6126 \newcommand*\LWR@topnavigation{%
6127   \LWR@htmlElementclassline{nav}{topnavigation}{\LinkHome}
6128 }
```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```

6129 \newcommand*\LWR@botnavigation}{%
6130   \LWR@html@elementclassline{nav}{botnavigation}{\LinkHome}
6131 }

6132 \end{warpHTML}

```

## 48 Previous/next navigation links

**for HTML & PRINT:** 6133 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

```
6134 \newcommand*\linkpreviousname}{Previous}
```

\linknextname What to call the link to the next web page.

```
6135 \newcommand*\linknextname}{Next}
```

```
6136 \end{warpall}
```

**for PRINT output:** 6137 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

```
6138 \newcommand*\LinkPrevious}{}
```

\LinkNext Creates a link to the next web page if there is one.

```
6139 \newcommand*\LinkNext}{}
```

```
6140 \end{warpprint}
```

**for HTML output:** 6141 \begin{warpHTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*

```

6142 \newcommand*\LinkPrevious}{%
6143   \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}}{1}}{%
6144     \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}-1}%
6145     \LWR@subhyperrefclass{%
6146       \LWR@htmlrefsectionfilename{%
6147         \BaseJobname-autofile-\arabic{\LWR@tempcountone}%
6148       }%
6149     }{\linkpreviousname}{linkhome}%
6150   }%
6151 }

```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\* and the last is the label \Basejobname-autofile-last

```

6152 \newcommand*\LinkNext}{%
6153   \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6154     \edef\LWR@tempone{%
6155       \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}}%
6156     }%
6157     \edef\LWR@temptwo{%
6158       \LWR@htmlfileref{\BaseJobname-autofile-last}}%
6159     }%
6160     \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
6161       \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6162       \LWR@subhyperrefclass{%
6163         \LWR@htmlrefsectionfilename{%
6164           \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
6165         }%
6166       }{\linknextname}{linkhome}%
6167     }%
6168   }{}%
6169 }

6170 \end{warpHTML}

```

## 49 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

**for HTML output:** 6171 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

6172 \newcommand*\LWR@subprintstack}{
6173 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6174 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6175 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
6176 \LWR@closedephten\ \LWR@closedeptheleven\ \LWR@closedephtwelve\
6177 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6178 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6179 \LWR@closedepthnineteen\
6180 }
6181
6182 \newcommand*\LWRPrintStack}{
6183 \LWR@startpars
6184 \LWR@subprintstack
6185 }

6186 \end{warpHTML}

```

**for PRINT output:** 6187 \begin{warpprint}

```

6188 \newcommand*\LWRPrintStack}{}

6189 \end{warpprint}

```

## 50 Closing stack levels

**for HTML output:** 6190 \begin{warpHTML}

Close one nested level:

```
6191 \newcommand*\LWR@closeoneprevious}{%
6192
6193 \LWR@closeone
6194
6195 \LWR@popclose
6196 }
```

\LWR@closeprevious {<*sectintype*>} Close everything up to the given depth:

```
6197 \newcommand*\LWR@closeprevious}[1]{%
6198 \LWR@traceinfo{%
6199   \LWR@closeprevious to depth \csuse{LWR@depth#1}, %
6200   depths are \LWR@subprintstack%
6201 }%
```

Close any pending paragraph:

```
6202 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
6203 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}{%
6204 {%
6205   \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6206   \LWR@closeoneprevious%
6207 }%
6208 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}{%
6209 {%
6210   \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6211   \LWR@closeoneprevious%
6212 }%}%
6213 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
6214 }

6215 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 6216 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```
6217 \newcommand*\LWR@forcenewpage}{%
```



```
6218 \LWR@traceinfo{LWR@forcenewpage}%
6219 \ifinner\else%
6220   \LWR@traceinfo{LWR@forcenewpage A}%
6221   \LWR@stoppars%
6222   \LWR@traceinfo{LWR@forcenewpage B}%
6223   \LWR@maybe@orignewpage%
6224   \LWR@traceinfo{LWR@forcenewpage C}%
6225   \LWR@startpars%
6226 \fi%
6227 \LWR@traceinfo{LWR@forcenewpage done}%
6228 }
```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle` {*style*}

```
6229 \renewcommand*{\pagestyle}[1]{}
```

`\thispagestyle` {*style*}

```
6230 \renewcommand*{\thispagestyle}[1]{}
```

`\markboth` {*left*} {*right*}

```
6231 \renewcommand*{\markboth}[2]{}
```

`\markright` {*right*}

```
6232 \renewcommand*{\markright}[1]{}
```

`\raggedbottom`

```
6233 \renewcommand*{\raggedbottom}{}
```

`\flushbottom`

```
6234 \renewcommand*{\flushbottom}{}
```

`\sloppy`

```
6235 \renewcommand*{\sloppy}{}
```

`\fussy`

```
6236 \renewcommand*{\fussy}{}
```

`\pagenumbering` \* {*commands*}

```
6237 \RenewDocumentCommand{\pagenumbering}{s m}{}
```

```
6238 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

for HTML output: 6239 `\begin{warpHTML}`

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

6240 \newcommand*\LWR@tagtitle}{h1}
6241 \newcommand*\LWR@tagtitleend}{/h1}
6242 \newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
6243 \newcommand*\LWR@tagbookend}{/div}
6244 \newcommand*\LWR@tagpart}{h2}
6245 \newcommand*\LWR@tagpartend}{/h2}
6246 \newcommand*\LWR@tagchapter}{h3}
6247 \newcommand*\LWR@tagchapterend}{/h3}
6248 \newcommand*\LWR@tagsection}{h4}
6249 \newcommand*\LWR@tagsectionend}{/h4}
6250 \newcommand*\LWR@tagsubsection}{h5}
6251 \newcommand*\LWR@tagsubsectionend}{/h5}
6252 \newcommand*\LWR@tagsubsubsection}{h6}
6253 \newcommand*\LWR@tagsubsubsectionend}{/h6}
6254 \newcommand*\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6255 \newcommand*\LWR@tagparagraphend}{/span}
6256 \newcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6257 \newcommand*\LWR@tagsubparagraphend}{/span}
6258
6259 \newcommand*\LWR@tagregularparagraph}{p}

```

### 52.2 Hook while processing tags

Hook `[lwarp]` `\LWR@hook@processingtags` This is used to disable special text processing while processing HTML tags. Special processing includes that done by `babel-french`, `luavina`, `xevlva`.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```
6260 \newcommand*\LWR@hook@processingtags}{}
```

### 52.3 Babel-French tag modifications

Adjust `babel-french` for HTML spaces. So far, this only works for `pdflatex` and `xelatex`.

*(Emulates or patches code by DANIEL FLIPO.)*

```

6261 \providecommand*\LWR@FBcancel{}
6262
6263 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```
6264 \@ifundefined{NoAutoSpacing}%
```

```

6265     {}%
6266     {%
6267         \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6268         \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6269     }%
6270
6271 \@ifundefined{frenchbsetup}%
6272 {}%
6273 {%
6274     \frenchbsetup{FrenchFootnotes=false}%

6275 %
6276     \renewrobustcmd*{\FBcolonspace}{%
6277         \begingroup%
6278         \LWR@hook@processingtags%
6279         \LWR@origampersand{}\nbsp;%
6280         \endgroup%
6281     }%
6282     \renewrobustcmd*{\FBthinspace}{%
6283         \begingroup%
6284         \LWR@hook@processingtags%
6285         \LWR@origampersand\LWR@origpound{}x202f;% \,
6286         \endgroup%
6287     }%
6288     \renewrobustcmd*{\FBguillspace}{%
6289         \begingroup%
6290         \LWR@hook@processingtags%
6291         \LWR@origampersand{}\nbsp;% ~, for \og xyz \fg{}
6292         \endgroup%
6293     }%
6294     \DeclareDocumentCommand{\FBmedkern}{}{%
6295         \begingroup%
6296         \LWR@hook@processingtags%
6297         \LWR@origampersand\LWR@origpound{}x202f;% \,
6298         \endgroup%
6299     }%
6300     \DeclareDocumentCommand{\FBthickern}{}{%
6301         \begingroup%
6302         \LWR@hook@processingtags%
6303         \LWR@origampersand{}\nbsp;% ~
6304         \endgroup%
6305     }%
6306     \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6307     \ifFBunicode%
6308     \else%
6309         \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6310         \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6311     \fi%
6312 }%
6313 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6314 \newcommand*{\LWR@indentHTML}{%
6315   \LWR@orignewline\LWR@origrule{2em}{0pt}%
6316 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

6317 \newcommand*{\LWR@indentHTMLtwo}{%
6318   \LWR@orignewline\LWR@origrule{4em}{0pt}%
6319 }

```

## 52.5 HTML tags

`\LWR@htmltagc` `{<tag>}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6320 \newcommand*{\LWR@htmltagc}[1]{%
6321   \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6322   \begingroup%
6323   \LWR@hook@processingtags%
6324   \LWR@fontfortags{\LWR@htmltagc}{\detokenize{#1}}%
6325   \protect\LWR@origtextless%
6326   \LWR@isolate{#1}%
6327   \protect\LWR@origtextgreater%
6328   \endgroup%
6329 }

```

`\LWR@spanwarnformat` `{<object>}`

Warns if the given object is used inside a span.

```

6330 \newcommand*{\LWR@spanwarnformat}[1]{%
6331   \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6332     \PackageWarning{\lwarp}{%
6333       A #1 is being used inside a span.\MessageBreak
6334       Formatting may be lost,%
6335     }%
6336   }{%
6337 }

```

`\LWR@spanwarninvalid` `{<object>}`

Warns if the given object is used inside a span.

```

6338 \newcommand*{\LWR@spanwarninvalid}[1]{%
6339   \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6340     \PackageWarning{\lwarp}{%
6341       A #1 is being used inside a span.\MessageBreak
6342       This generates invalid HTML,%
6343     }%
6344   }{%
6345 }

```

Env `LWR@nestspan` Disable `minipage`, `\parbox`, and HTML `<div>s` inside a `<span>`.

- ⚠ `\begin{LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ `\end{LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```

6346 \newcommand*\LWR@nestspanitem}{%
6347   \if@newlist\else{
6348     \LWR@htmltagc{br /}%
6349     \LWR@orignewline%
6350   }\fi%
6351   \LWR@origitem%
6352 }
6353
6354 \newenvironment*{LWR@nestspan}
6355 {%
6356   \LWR@traceinfo{LWR@nestspan starting}%
6357   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6358   {%
6359     \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6360   }%
6361   {% not in a lateximage
6362     \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6363     \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6364   \RenewDocumentEnvironment{minipage}{0{t} o 0{t} m}%
6365     {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6366     {}%
6367   \RenewDocumentEnvironment{BlockClass}{o m}%
6368     {\LWR@spanwarnformat{multi-paragraph object}}%
6369     {}%
6370   \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}%
6371     {\LWR@spanwarnformat{multi-paragraph object}}%
6372     {}%
6373   \renewcommand{\BlockClassSingle}[2]{%
6374     {\LWR@spanwarnformat{multi-paragraph object}}%
6375     ##2%
6376   }%
6377   \renewcommand{\LWR@forcenewpage}{}%
6378   \renewcommand{\LWR@liststart}{\LetLtxMacro\item\LWR@nestspanitem}%
6379   \renewcommand{\LWR@listend}{\leavevmode}%
6380   \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6381   \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6382   }% not in a lateximage
6383   \LWR@traceinfo{LWR@nestspan starting: done}%
6384 }% starting env
6385 {% ending env
6386   \LWR@traceinfo{LWR@nestspan ending}%
6387   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6388   {}%
6389   {\addtocounter{LWR@spandepth}{-1}}%
6390   \LWR@traceinfo{LWR@nestspan ending: done}%
6391 }

```

`\LWR@htmlspan` `{\tag}` `{\text}`



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```
6392 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6393   \LWR@ensuredoingapar%
6394   \LWR@htmltagc{#1}%
6395   \begin{LWR@nestspan}%
6396   #2%
6397   \LWR@htmltagc{/#1}%
6398   \end{LWR@nestspan}%
6399 }
```

`\LWR@htmlspanclass` [*style*] (*aria role*) {*class*} {*text*}

```
6400 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6401   \LWR@traceinfo{LWR@htmlspanclass |#1|#2|#3|}%
6402   \LWR@ensuredoingapar%
6403   \ifblank{#2}%
6404     {\LWR@subhtmlElementclass{span}[#1]{#3}}%
6405     {\LWR@subhtmlElementclass{span}[#1](#2){#3}}%
6406   \begin{LWR@nestspan}%
6407   #4%
6408   \LWR@htmltagc{/span}%
6409   \LWR@traceinfo{LWR@htmlspanclass done}%
6410   \end{LWR@nestspan}%
6411 }
```

`\LWR@htmltag` {*tag*}

Print an HTML tag: <tag>

```
6412 \newcommand*{\LWR@htmltag}[1]{%
6413   \LWR@htmltagc{#1}%
6414 }
```

## 52.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@htmlopencomment`  
`\LWR@htmlclosecomment`

```
6415 \newcommand*{\LWR@htmlopencomment}{%
6416 % \LWR@traceinfo{LWR@htmlopencomment}%
6417   \begingroup%
6418   \LWR@hook@processingtags%
6419   \LWR@fontfortags{\LWR@htmlopencomment}{}%
6420   \LWR@print@embox{\LWR@origtextless{!-\/-}%
6421   \endgroup%
6422 }
6423
6424 \newcommand*{\LWR@htmlclosecomment}{%
6425 % \LWR@traceinfo{LWR@htmlclosecomment}%
6426   \begingroup%
```

```

6427 \LWR@hook@processingtags%
6428 \LWR@fontfortags{LWR@htmlclosecomment}{}%
6429 \LWR@print@box{-\/-\LWR@origtextgreater}%
6430 \endgroup%
6431 }

```

`\LWR@htmlcomment` {<*comment*>}

```

6432 \newcommand{\LWR@htmlcomment}[1]{%
6433   \ifmode%
6434   \else%
6435     \LWR@htmlopencomment{}%
6436     {%
6437       \LWR@print@normalfont%
6438       \LWR@origttfamily% break ligatures
6439       #1%
6440     }%
6441     \LWR@htmlclosecomment{}%
6442   \fi%
6443 }

```

`\LWR@htmlblockcomment` {<*comment*>}

```

6444 \newcommand{\LWR@htmlblockcomment}[1]
6445   {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

```

`\LWR@htmlblocktag` {<*tag*>} print a stand-alone HTML tag

```

6446 \newcommand*{\LWR@htmlblocktag}[1]{%
6447   \LWR@stoppars%
6448   \LWR@htmltag{#1}%
6449   \LWR@startpars%
6450 }

```

## 52.7 Div class and element class

`\LWR@subhtmlclass` {<*element*>} [<*style*>] (<*aria role*>) {<*class*>}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

6451 \NewDocumentCommand{\LWR@subhtmlclass}{m O{} D(){} m}{%
6452   \LWR@traceinfo{\LWR@subhtmlclass !#1!#2!#3!#4!}%
6453   \ifblank{#2}%
6454   {% empty style
6455     \LWR@htmltag{%
6456       #1%
6457       \ifblank{#3}{ role=\textquotedbl#3\textquotedbl}% spaces
6458       \ifblank{#4}{ class=\textquotedbl#4\textquotedbl}% spaces
6459     }%
6460   }%

```

```

6461   {% non-empty style
6462     \LWR@htmltag{%
6463       #1\LWR@indentHTML%
6464       \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6465       \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6466       style=\textquotedbl#2\textquotedbl\LWR@originewline%
6467     }%
6468   }%
6469   \LWR@traceinfo{LWR@subhtmllementclass done}%
6470 }

```

\LWR@htmllementclass {<element>} [<style>] {<class>}

```

6471 \NewDocumentCommand{\LWR@htmllementclass}{m o D(){} m}{%
6472   \LWR@stoppars%
6473   \LWR@forceemptyline%
6474   \ifblank{#3}%
6475     {\LWR@subhtmllementclass{#1}[#2]{#4}}%
6476     {\LWR@subhtmllementclass{#1}[#2](#3){#4}}%
6477   \LWR@startpars%
6478 }

```

\LWR@htmllementclassend {<element>} {<class>}

```

6479 \newcommand*{\LWR@htmllementclassend}[2]{%
6480   \LWR@stoppars%
6481   \LWR@htmltag{/#1}%
6482   \ifbool{HTMLDebugComments}{%
6483     \LWR@htmlcomment{End of #1 ‘#2’}%
6484   }{%
6485   \LWR@startpars%
6486 }

```

\LWR@htmldivclass [<style>] (<aria role>) {<class>}

```

6487 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6488   \ifblank{#2}
6489     {\LWR@htmllementclass{div}[#1]{#3}}%
6490     {\LWR@htmllementclass{div}[#1](#2){#3}}%
6491 }

```

\LWR@htmldivclassend {<class>}

```

6492 \newcommand*{\LWR@htmldivclassend}[1]{%
6493   \LWR@htmllementclassend{div}{#1}%
6494 }

```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

\LWR@htmllementclassline {<element>} [<style>] {<class>} {<text>}

```

6495 \NewDocumentCommand{\LWR@htmllementclassline}{m o m +m}{%

```



```

6496 \LWR@stoppars
6497 \LWR@forceemptyline%
6498 \LWR@subhtmlclass{#1}[#2]{#3}%
6499 #4%
6500 \LWR@htmltag{/#1}
6501 \LWR@startpars
6502 }

```

## 52.9 HTML5 semantic elements

`\LWR@htmlElement` {<*element*>}

```

6503 \newcommand*\LWR@htmlElement[1]{%
6504 \LWR@htmlblocktag{#1}
6505 }

```

`\LWR@htmlElementend` {<*element*>}

```

6506 \newcommand*\LWR@htmlElementend[1]{%
6507 \LWR@stoppars
6508 \LWR@htmltag{/#1}
6509 \LWR@startpars
6510 }
6511
6512 \end{warpHTML}

```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 95.

Env `BlockClass` [*style*] (<*aria role*>) {<*class*>} High-level interface for <div> classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for HTML & PRINT:** `6513 \begin{warpall}`  
`6514 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}`  
`6515 \end{warpall}`

**for HTML output:** `6516 \begin{warpHTML}`  
`6517`  
`6518 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%`  
`6519 \LWR@htmldivclass[#1](#2){#3}%`  
`6520 \LWR@htmldivclassend{#3}}`  
`6521`  
`6522 \LWR@formattedenv{BlockClass}`  
`6523 \end{warpHTML}`

`\BlockClassSingle` {<*class*>} {<*text*>} A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6524 \begin{warpall}  
 6525 \newcommand{\BlockClassSingle}[2]{#2}  
 6526 \end{warpall}

**for HTML output:** 6527 \begin{warpHTML}  
 6528 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%  
 6529 \LWR@html@element@classline{div}{#1}{#2}%  
 6530 }  
 6531  
 6532 \LWR@formatted{BlockClassSingle}  
 6533 \end{warpHTML}

\InlineClass (<WP style>) [<style>] {<class>} {<text>}

High-level interface for inline span classes.

(<WP style>) is css styling to add when formatting for a word processor import.

[<style>] is the css styling to add when not formatting for a word processor.

**for HTML & PRINT:** 6534 \begin{warpall}  
 6535 \NewDocumentCommand{\InlineClass}{D{({})}{ } o m +m}{#4}%  
 6536 \end{warpall}

**for HTML output:** 6537 \begin{warpHTML}  
 6538 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{({})}{ } o m +m}{%  
 6539 \LWR@traceinfo{LWR@HTML@InlineClass #3}%  
 6540 \ifbool{FormatWP}{%  
 6541 \LWR@traceinfo{LWR@HTML@InlineClass: FormatWP}%  
 6542 \LWR@htmlspanclass[#1]{#3}{#4}%  
 6543 }{%  
 6544 \LWR@traceinfo{LWR@HTML@InlineClass: not FormatWP}%  
 6545 \LWR@htmlspanclass[#2]{#3}{#4}%  
 6546 }%  
 6547 \LWR@traceinfo{LWR@HTML@InlineClass: done}%  
 6548 }  
 6549  
 6550 \LWR@formatted{InlineClass}  
 6551 \end{warpHTML}

Env LWR@BlockClassWP {<WPstyle>} {<HTMLstyle>} (<aria role>) {<class>} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

**for HTML & PRINT:** 6552 \begin{warpall}  
 6553 \NewDocumentEnvironment{LWR@BlockClassWP}{m m D(){ } m}{ }  
 6554 \end{warpall}

**for HTML output:** 6555 \begin{warpHTML}  
 6556 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m D(){ } m}%  
 6557 {%  
 6558 \LWR@stoppars%  
 6559 \ifbool{FormatWP}%  
 6560 {%  
 6561 \addtocounter{LWR@thisautoidWP}{1}%

```

6562         \LWR@htmltag{%
6563             div class=\textquotedbl#4\textquotedbl\ % space
6564             id=\textquotedbl%
6565                 \LWR@print@embox{autoidWP-\arabic{LWR@thisautoidWP}}%
6566             \textquotedbl%
6567             \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}%
6568             \ifblank{#1}{\style=\textquotedbl#1\textquotedbl}%
6569         }%
6570     }% FormatWP
6571     {% not FormatWP
6572         \LWR@htmltag{%
6573             div class=\textquotedbl#4\textquotedbl%
6574             \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}%
6575             \ifblank{#2}{\style=\textquotedbl#2\textquotedbl}%
6576         }%
6577     }% not FormatWP
6578     \LWR@startpars%
6579     }
6580     {\LWR@htmldivclassend{#4}}
6581
6582 \LWR@formattedenv{LWR@BlockClassWP}
6583 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:** 6584 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6585 \newcommand*{\LWR@printclosebook}
6586     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6587 \newcommand*{\LWR@printclosepart}
6588     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6589 \newcommand*{\LWR@printclosechapter}
6590     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6591 \newcommand*{\LWR@printclosesection}
6592     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6593 \newcommand*{\LWR@printclosesubsection}
6594     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6595 \newcommand*{\LWR@printclosesubsubsection}
6596     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6597 \newcommand*{\LWR@printcloseparagraph}
6598     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6599 \newcommand*{\LWR@printclosesubparagraph}
6600     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6601 \newcommand*{\LWR@printcloselistitem}
6602     {\LWR@htmltag{/li}}
6603 \newcommand*{\LWR@printclosedescitem}
6604     {\LWR@htmltag{/dd}}
6605 \newcommand*{\LWR@printcloseitemize}
6606     {\LWR@htmltag{/ul}}
6607 \newcommand*{\LWR@printcloseenumerate}
6608     {\LWR@htmltag{/ol}}
6609 \newcommand*{\LWR@printclosedescription}

```

```
6610   {\LWR@htmltag{/dl}}
```

```
6611 \end{warpHTML}
```

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to manage tag creation.

**for HTML output:** 6612 `\begin{warpHTML}`

Ctrl `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```
6613 \newcounter{LWR@spandepth}
```

```
6614 \setcounter{LWR@spandepth}{0}
```

Bool `LWR@doingparhooks` Tells whether the `lwarp` paragraph hooks are to be active.

```
6615 \newbool{LWR@doingparhooks}
```

```
6616 \boolfalse{LWR@doingparhooks}
```

Bool `LWR@in@multirow@par` Tells whether to generate `break` instead of paragraph tags inside a `\multirow`.

```
6617 \newbool{LWR@in@multirow@par}
```

```
6618 \boolfalse{LWR@in@multirow@par}
```

Bool `LWR@starting@fancybox` Suppresses `<br>` if beginning a `fancybox` environment.

```
6619 \newbool{LWR@starting@fancybox}
```

```
6620 \boolfalse{LWR@starting@fancybox}
```

Bool `LWR@doingstartpars` Tells whether paragraphs may be generated.

```
6621 \newbool{LWR@doingstartpars}
```

```
6622 \boolfalse{LWR@doingstartpars}
```

Bool `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```
6623 \newbool{LWR@doingapar}
```

```
6624 \global\boolfalse{LWR@doingapar}
```

Bool `LWR@algocf@dopars` Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6625 \newbool{LWR@algocf@dopars}
```

```
6626 \boolfalse{LWR@algocf@dopars}
```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6627 \def\PN@parnotes@auto{%
```

`\LWR@ensuredoingapar` These were different in older versions of `lwarp`, but are now the same thing.

`\LWR@openparagraph`

```
6628 \newcommand*\LWR@openparagraph}
```

```
6629 {%
```

See if paragraph handling is enabled:

```
6630 \ifboolexpr{
6631     bool{LWR@doingparhooks} and
6632     bool{LWR@doingstartpars}
6633 }%
6634 {% handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6635 \ifboolexpr{
6636     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6637     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6638 }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```
6639 }% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6640 {% yes nest par tags
6641     \ifbool{LWR@doingapar}}{%
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6642 \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6643 \global\booltrue{LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing `algorithm2e` handling instead:

```
6644 \ifbool{LWR@algocf@dopars}}{%
6645     \ifbool{LWR@in@multirow@par}%
6646     }%
6647     {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6648     }%
6649 }%
6650 }% end of yes nest par tags
```

```

6651   }% end of handling pars
6652   {}% not handling pars
6653 }
6654
6655 \let\LWR@ensuredoingapar\LWR@openparagraph

```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```

6656 \newcommand*\LWR@closeparagraph@br{
6657 {%
6658   \ifboolexpr{
6659     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6660     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6661     not bool {LWR@starting@fancybox} and
6662     not bool {LWR@intabularmetadata} or
6663     bool {LWR@in@multirow@par}
6664   }%
6665   {\unskip\LWR@htmltagc{br /}}%
6666   }%
6667 }

```

`\LWR@closeparagraph`

```

6668 \newcommand*\LWR@closeparagraph{
6669 {%
6670 % \LWR@traceinfo{LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6671   \ifbool{LWR@doingparhooks}{%
6672     \ifbool{LWR@doingapar}%

```

If currently in paragraph mode:

```

6673     {% handling pars

```

See if already started a lateximage or a `<span>`:

```

6674     \ifboolexpr{
6675       test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6676       test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} or
6677       bool{LWR@in@multirow@par}
6678     }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6679     {% no nested par tags
6680       \LWR@closeparagraph@br%
6681     }% no nested par tags

```

If have not already started a lateximage or a `<span>`:

```

6682     {% yes nest par tags

```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```
6683         \@hspacer{\fill}% \hspace*{\fill}
6684         \leavevmode\LWR@orignewline%
6685         \LWR@htmltagc{/\LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
6686         \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6687         \global\boolfalse{LWR@minipagethispar}%
```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```
6688         \PN@parnotes@auto%

6689         }% end of yes nest par tags
6690         }% LWR@doingapar: end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6691         {% not LWR@doingapar: not handling pars
6692         \LWR@closeparagraph@br%
6693         }% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X \par, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for \multicolumn.

```
6694         \ifboolexpr{%
6695             not bool {LWR@doingapar} and
6696             test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6697             test {
6698                 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6699             } and
6700             bool {LWR@intabularmetadata} and
6701             not bool {LWR@tableparcell} and
6702             test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6703         }%
6704         {\LWR@getmynexttoken}%
6705         }%
6706     }% LWR@doingparhooks
6707     {% not LWR@doingparhooks
6708 % Do not place anything here, due to the above \LWR@getmynexttoken.
6709 }
```

### 53.1 Paragraph Hooks

Hook [LaTeX] para/begin

```
6710 \AddToHook{para/begin}[[lwarp]]{\LWR@openparagraph}
```

Hook [LaTeX] para/end

```
6711 \AddToHook{para/end}[lwarp]{\LWR@closeparagraph}
```

```
6712 \end{warpHTML}
```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to generate the opening and closing paragraph tags.

**for HTML output:** 6713 \begin{warpHTML}

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6714 \newcommand*\LWR@startpars%
```

```
6715 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6716   \ifboolexpr{
6717     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6718     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6719   }%
6720   {}% nesting
6721   {% not nesting
```

The L<sup>A</sup>T<sub>E</sub>X paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
6722   \ifboolexpr {bool{LWR@doingparhooks} and bool{LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
6723   {}%
```

If not currently in paragraph mode:

```
6724   {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
6725   \global\booltrue{LWR@doingstartpars}%
```

No `<par>` tag yet to undo:

```
6726   \global\boolfalse{LWR@doingapar}%
6727   }% not nesting
6728 }
```



`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6729 \newcommand*{\LWR@stoppars}%
6730 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6731 \ifboolexpr{
6732     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6733     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6734 }%
6735 {}% nesting
6736 {% not nesting
```

See if currently handling HTML paragraphs:

```
6737 \ifboolexpr{bool{LWR@doingparhooks} and bool{LWR@doingapar}}%
```

if currently in an HTML paragraph:

```
6738 {%
```

Print a closing tag:

```
6739 \leavevmode\LWR@orignewline%
6740 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6741 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6742 \global\boolfalse{LWR@doingapar}%
```

Disable the special `minipage` & `\hspace` interaction until a new `minipage` is found:

```
6743 \global\boolfalse{LWR@minipagethispar}%
6744 }%
```

If was not in an HTML paragraph:

```
6745 {}%
```

No longer in paragraph mode:

```
6746 \global\setbool{LWR@doingstartpars}{false}%
```

No `<p>` tag to undo:

```
6747 \global\boolfalse{LWR@doingapar}%
6748 }% not nesting
6749 }
```

```
6750 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst

indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \@AtBeginDocument here.

```

for HTML output: 6751 \begin{warpHTML}

6752 \AtBeginDocument{
6753   \def\@afterindentfalse{\let\if@afterindent\iffalse}
6754   \@afterindentfalse
6755 }
6756 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6757 \end{warpHTML}

```

## 56 Page headers and footers

**for HTML & PRINT:** 6758 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```

6759 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6760 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6761 \newcommand{\LWR@pagetop}{} % for all other pages
6762 \newcommand{\LWR@pagebottom}{}

```

\HTMLFirstPageTop {<*text and logos*>}

```

6763 \newcommand{\HTMLFirstPageTop}[1]{%
6764   \renewcommand{\LWR@firstpagetop}{#1}%
6765 }

```

\HTMLFirstPageBottom {<*text and logos*>}

```

6766 \newcommand{\HTMLFirstPageBottom}[1]{%
6767   \renewcommand{\LWR@firstpagebottom}{#1}%
6768 }

```

\HTMLPageTop {<*text and logos*>}

```

6769 \newcommand{\HTMLPageTop}[1]{%
6770   \renewcommand{\LWR@pagetop}{#1}%
6771 }

```

\HTMLPageBottom {<*text and logos*>}

```

6772 \newcommand{\HTMLPageBottom}[1]{%
6773   \renewcommand{\LWR@pagebottom}{#1}%
6774 }

```

```

6775 \end{warpall}

```

## 57 CSS

**for HTML output:** 6776 `\begin{warpHTML}`

`\LWR@currentcss` The CSS filename to use. This may be changed mid-document using `\CSSFilename`, allowing different CSS files to be used for different sections of the document.

```
6777 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename` `{\langle new-css-filename.css \rangle}` Assigns the CSS file to be used by the following HTML pages.

```
6778 \newcommand*{\CSSFilename}[1]{%
6779   \renewcommand*{\LWR@currentcss}{#1}%
6780   \@onelevel@sanitize\LWR@currentcss%
6781 }
6782
6783 \end{warpHTML}
```

**for PRINT output:** 6784 `\begin{warpprint}`  
 6785 `\newcommand*{\CSSFilename}[1]{}`  
 6786 `\end{warpprint}`

## 58 MATHJAX script

**for HTML output:** 6787 `\begin{warpHTML}`  
 Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6788 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename` `{\langle filename \rangle}` Assigns the MATHJAX script file to be used by the following HTML pages.

```
6789 \newcommand*{\MathJaxFilename}[1]{%
6790   \renewcommand*{\LWR@mathjaxfilename}{#1}%
6791   \@onelevel@sanitize\LWR@mathjaxfilename%
6792 }
6793
6794 \end{warpHTML}
```

**for PRINT output:** 6795 `\begin{warpprint}`  
 6796 `\newcommand*{\MathJaxFilename}[1]{}`  
 6797 `\end{warpprint}`

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6798 \begin{warpHTML}

\title *{\langle title \rangle}* Modified to remember \thetitle, which is used to set the HTML page titles.

```
6799 \let\LWR@origtitle\title
6800
6801 \renewcommand*{\title}[1]{%
6802   \LWR@origtitle{#1}%
6803   \begingroup%
6804     \renewcommand{\thanks}[1]{%
6805       \protected@xdef\thetitle{#1}%
6806     \endgroup%
6807 }

6808 \end{warpHTML}
```

**for HTML & PRINT:** 6809 \begin{warpall}


\HTMLTitle *{\langle Titlename \rangle}* The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```
6810 \providecommand{\thetitle}{\BaseJobname}
6811
6812 \newcommand{\theHTMLTitle}{\thetitle}
6813
6814 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor *{\langle authorname \rangle}* The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the titling package is used.

```
6815 \providecommand{\theauthor}{}
6816
6817 \newcommand{\theHTMLAuthor}{\theauthor}
6818
6819 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using \HTMLDescription, allowing different HTML descriptions to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

\HTMLDescription *{\langle New html meta description. \rangle}* Assigns the HTML file's description meta tag.

```
6820 \newcommand{\LWR@currentHTMLDescription}{}
6821
6822 \newcommand{\HTMLDescription}[1]{%
6823   \renewcommand{\LWR@currentHTMLDescription}{#1}
6824 }
6825
6826 \end{warpall}
```

## 60 Footnotes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc` `stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
. . .
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

## 60.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 94.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 69.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

**for HTML & PRINT:** 6827 `\begin{warpall}`

Ctrl `FootnoteDepth` Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.  
 Default: 3 The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```
6828 \newcounter{FootnoteDepth}
6829 \setcounter{FootnoteDepth}{3}
```

Ctrl `footnoteReset` If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6830 \newcounter{footnoteReset}
6831 \setcounter{footnoteReset}{0}
```

```
6832 \end{warpall}
```

**for HTML output:** 6833 `\begin{warpHTML}`

Required for footnotes inside `description` or `amsththeorem` square braces:

```
6834 \AtBeginDocument{
6835 \robustify{\footnote}
```

```
6836 \robustify{\footnotemark}
6837 }
```

`\LWR@footnotebox` Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6838 \newbox\LWR@footnotebox
```

Bool `LWR@spewingnotes` Used with the `footnote` package to suppress paragraph tags before and after `\spewnotes`.

```
6839 \newbool{LWR@spewingnotes}% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

`\@makefntext` {<*text*>}

```
6840 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~{#1}}
```

`\@makefnmark`

```
6841 \def\@makefnmark{%
6842   \textsuperscript{\@thefnmark}%
6843 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

`\LWR@@footnotetext` {<*text*>} {<*footnote box name*>}

Factored to allow multiple footnote boxes for `manyfoot`.

```
6844 \long\def\LWR@@footnotetext#1#2{%
6845 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6846 \LWR@newautopagelabel{page}%
6847 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6848 \begingroup%
6849 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6850 \global\setbox\csname #2\endcsname=\vbox{%
6851   \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6852   \protected@edef\@currentlabel{%
6853     \csname p@footnote\endcsname\@thefnmark%
6854   }% @currentlabel
```

Open a group:

```
6855   \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6856   \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
6857   \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
6858   \ifbool{LWR@spewingnotes}{}{%
6859     \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6860   }%
```

Append the footnote to the list:

```
6861   \@makefntext{#1}%
```

Closing paragraph tag:

```
6862   \ifbool{LWR@spewingnotes}{}{%
6863     \LWR@origtilde\LWR@orignewline%
6864     \LWR@htmltagc{/\LWR@tagregularparagraph}%
6865     \LWR@orignewline%
6866   }%
```

Close the group:

```
6867   \color@endgroup%
6868 }% vbox
6869 \endgroup%
6870 }%
```

```
\LWR@footnotetext {<text>}
```

```
6871 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{\LWR@footnotebox}}%
```

```
\@footnotetext {<text>}
```

```
6872 \LetLtxMacro\@footnotetext\LWR@footnotetext
```



## 60.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6873 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```
6874 \long\def\@mpfootnotetext#1{%
6875 \LWR@traceinfo{\@mpfootnotetext}%
6876 \LWR@ensuredoingapar%
6877 \global\setbox\LWR@mpfootnotes\ vbox{%
6878   \unvbox\LWR@mpfootnotes%
6879   \reset@font\footnotesize%
6880   \hsize\columnwidth%
6881   \@parboxrestore%
6882   \protected@edef\@currentlabel%
6883     {\csname p@mpfootnote\endcsname\@thefnmark}%
6884   \color@begingroup%
```

Add paragraph tag:

```
6885   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

6886   \@makefnctext{%
6887     \ignorespaces#1%
6888   }%
```

Add the closing paragraph tag:

```
6889   \leavevmode\LWR@orignewline%
6890   \LWR@htmltagc{/\LWR@tagregularparagraph}%

6891   \color@endgroup%
6892 }% vbox
```

Paragraph handling:

```
6893 \LWR@ensuredoingapar%
6894 \LWR@traceinfo{\@mpfootnotetext: done}%
6895 }
```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```
6896 \AtBeginDocument{
6897   \def\thempfootnote{\@alph\c@mpfootnote}
6898 }
```

## 60.6 Printing pending footnotes

```
\LWR@printpendingfootnotes {<footnote counter name>}
```

```

6899 \newcommand*\LWR@printpendingfootnotes}[1]{%
6900 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6901   \LWR@forcenewpage
6902   \begin{BlockClass}(note){footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6903   \LWR@newautopagelabel{page}%

6904   \null
6905   \unvbox\csuse{LWR@#1box}
6906   \setbox\csuse{LWR@#1box}=\vbox{}
6907   \end{BlockClass}
6908   \ifltxcounter{#1Reset}{%
6909     \ifnumgreater{\value{#1Reset}}{0}{%
6910       \setcounter{#1}{\value{#1Reset}}%
6911       \addtocounter{#1}{-1}%
6912     }{}%
6913   }{}%
6914 \fi
6915 }

```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6916 \newcommand*\LWR@printpendingfootnotes}{%
6917   \LWR@printpendingfootnotes{footnote}%
6918 }

```

`\LWR@maybeprintpendingfootnotes` `{<depth>}` Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6919 \newcommand*\LWR@maybeprintpendingfootnotes}[1]{%
6920 \ifboolexpr{
6921   not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6922   bool{FormatEPUB} or
6923   bool{FormatWP}
6924 }%
6925 {\LWR@printpendingfootnotes}%
6926 {}%
6927 }

```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

6928 \newcommand*\LWR@printpendingmpfootnotes}{%
6929 \ifvoid\LWR@mpfootnotes\else
6930   \LWR@forcenewpage
6931   \begin{BlockClass}(note){footnotes}%
6932   \null
6933   \unvbox\LWR@mpfootnotes
6934   \setbox\LWR@mpfootnotes=\vbox{}
6935   \end{BlockClass}
6936 \fi
6937 }

```

`\LWR@nullifyfootnotes` Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```

6938 \newcommand*\LWR@nullifyfootnotes}{%
6939   \renewcommand{\footnote}[2][{}]{%
6940   \renewcommand{\footnotemark}[1][{}]{%
6941 }

6942 \end{warpHTML}

```

## 61 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 6943 `\begin{warpHTML}`

`\marginpar` [*left*] [*right*]

```

6944 \renewcommand{\marginpar}[2][{}]{%
6945 \ifbool{FormatWP}%
6946 {%
6947   \begin{LWR@BlockClassWP}%
6948     {width:2in; float:right; margin:10pt}{(note){marginblock}%
6949   #2
6950   \end{LWR@BlockClassWP}%
6951 }%
6952 {%
6953   \LWR@htmlspanclass(note){marginpar}{#2}%
6954 }%
6955 }

```

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

6956 \newcommand{\marginparBlock}[2][{}]{%
6957   \LWR@stoppars%
6958   \ifbool{FormatWP}%
6959   {%
6960     \begin{LWR@BlockClassWP}%
6961       {width:2in; float:right; margin:10pt}{%
6962       (note){marginblock}%
6963     #2
6964     \end{LWR@BlockClassWP}
6965   }%
6966   {%
6967     \begin{BlockClass}[width:2in; float:right; margin:10pt]%
6968     (note){marginparblock}%
6969     #2

```

```

6970     \end{BlockClass}
6971   }%
6972   \LWR@startpars%
6973 }

```

`\reversemarginpar`

```
6974 \renewcommand*{\reversemarginpar}{}

```

`\normalmarginpar`

```
6975 \renewcommand*{\normalmarginpar}{}

```

```
6976 \end{warpHTML}

```

**for PRINT output:** `6977 \begin{warpprint}`

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6978 \LetLtxMacro\marginparBlock\marginpar

```

```
6979 \end{warpprint}

```

## 62 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

File \*\_html.aux

A new entry in the \*\_html.aux file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

Ctrl LWR@currentautosecpage

Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following autosec label is created, thus the initial page number is recorded here.) LWR@currentautosecfloatpage is updated more often than LWR@currentautosecpage.

```
6980 \newcounter{LWR@currentautosecpage}
6981 \setcounter{LWR@currentautosecpage}{1}

```

Ctrl LWR@currentautosecfloatpage

The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than LWR@currentautosecpage, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `auto` id by the modified `\addcontentsline` just before each float's entry.

```
6982 \newcounter{LWR@currentautosecfloatpage}
6983 \setcounter{LWR@currentautosecfloatpage}{1}
```

Ctr

LWR@previousautopagelabel

Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
6984 \newcounter{LWR@previousautopagelabel}
6985 \setcounter{LWR@previousautopagelabel}{-1}
```

`\LWR@newautopagelabel`  $\{\langle\textit{pagenumber counter}\rangle\}$

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
6986 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6987 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
6988     {}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is `LWR@currentautosecpage`, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an SVG image, such as `SVG math`. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
6989     {%
6990         \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6991         \ifnumequal{\value{#1}}{\value{page}}%
6992             {}%
6993             {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6994         \setcounter{LWR@previousautopagelabel}{\value{page}}%
6995     }%
6996 }
```

`\LWR@null@newautopagelabel`  $\{\langle\textit{pagenumber counter}\rangle\}$

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
6997 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

## 63 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 6998 \begin{warpall}

Ctrl `FileDepth`      `{\section depth}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of `-5` produces one large HTML file.

```
6999 \newcounter{FileDepth}
7000 \setcounter{FileDepth}{-5}
```

Bool `CombineHigherDepths`      Combile higher-level sections together into one file?

```
7001 \newbool{CombineHigherDepths}
7002 \booltrue{CombineHigherDepths}
```

`\FilenameLimit`      Maximum length of the generated filenames.

```
7003 \newcommand*\FilenameLimit{80}

7004 \end{warpall}
```

**for HTML output:** 7005 \begin{warpHTML}

`\LWR@thisfilename`      The currently-active filename or number. At first, this is the homepage.

```
7006 \AtBeginDocument{
7007 \ifbool{FileSectionNames}%
7008   {\newcommand*\LWR@thisfilename{\HomeHTMLFilename}}
7009   {\newcommand*\LWR@thisfilename{\0}}
7010 }
```

`\LWR@thisnewfilename`      The filename being sanitized.

```
7011 \newcommand*\LWR@thisnewfilename{}
```

`\LWR@simplifname`      \* `{\expression}`      Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
7012 \NewDocumentCommand{\LWR@simplifname}{s m}{%
7013 \IfBooleanTF{#1}{%
7014   \StrSubstitute{\LWR@thisnewfilename}%
7015     {\detokenize{#2}}%
7016     {\detokenize{-}}[\LWR@thisnewfilename]%
7017 }{%
7018   \StrSubstitute{\LWR@thisnewfilename}%
```

```

7019      {#2}%
7020      {\detokenize{-}}[\LWR@thisnewfilename]%
7021 }
7022 }

```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```
7023 \newcommand*\LWR@simplifycustom{}
```

`\FilenameSimplify` \*{<*phrase*>} Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```

7024 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7025 \IfBooleanTF{#1}{%
7026   \appto{\LWR@simplifycustom}{%
7027     \LWR@simplifiname*{#2}%
7028   }%
7029 }{%
7030   \appto{\LWR@simplifycustom}{%
7031     \LWR@simplifiname{#2}%
7032   }%
7033 }%
7034 }

```

`\LWR@avoiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenamenoblanks`, and in an error in `\LWR@newhtmlfile`.

```

7035 \newcommand*\LWR@avoiddupfilenames{%
7036   To avoid duplicate filenames, use the optional\MessageBreak
7037   short Table of Contents entry:\MessageBreak
7038   \space\space\protect\section[Unique name, no math]{Name with math}%
7039   \MessageBreak
7040   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
7041   \space\space%
7042   \protect\section{\MessageBreak
7043     \space\space\space\space\protect\texorpdfstring\MessageBreak
7044     \space\space\space\space\space\space%
7045     {Name with math}{Unique name, no math}\MessageBreak
7046   \space\space}
7047 }

```

`\LWR@filenamenoblanks` {<*filename*>}

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```

7048 \newcommand*\LWR@filenamenoblanks}[1]{%
7049 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

7050 \LWR@nullfonts%
7051 \renewcommand*\LWR@htmltagc}[1]{}%
7052 \edef\LWR@thisnewfilename{#1}%

```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```
7053 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7054 \LWR@simplifiname{\_}
7055 \LWR@simplifiname{\#}
7056 \LWR@simplifiname{\textbackslash}
7057 \LWR@simplifiname{\protect}
7058 \LWR@simplifiname{\ }
7059 \LWR@simplifiname{\textless}
7060 \LWR@simplifiname{\textgreater}
```

```
7061 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
7062 \ifbool{FileSectionNames}{%
7063   \IfSubStr{\LWR@thisnewfilename}{\LWR@dollar}{%
7064     \PackageWarning{lwarp}
7065     {%
7066       This section name:\MessageBreak
7067       \space\space‘‘\detokenize\expandafter{#1}’’\MessageBreak
7068       at the line number listed below,\MessageBreak
7069       is using $dollar-delimited math$,
7070       which generates\MessageBreak
7071       complicated file names. It is better to use\MessageBreak
7072       \space\space%
7073       \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7074       \MessageBreak
7075       The math then will be removed from the file name.\MessageBreak
7076       \MessageBreak
7077       \LWR@avoiddupfilenames%
7078       \MessageBreak
7079       This section is found before or%
7080     }
7081   }{}%
7082 }{}
```

```
7083 \LWR@traceinfo{\LWR@filenamenooblanks edef: !\LWR@thisnewfilename!}%
7084 \fullexpandarg%
```

Convert spaces into hyphens:

```
7085 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```
7086 \LWR@simplifiname*{*}
7087 \LWR@simplifiname*{(}
7088 \LWR@simplifiname*{)}
7089 \LWR@simplifiname*{.}
7090 \LWR@simplifiname*{!}
7091 \LWR@simplifiname*{,}
7092 \LWR@simplifiname*{' }
7093 \LWR@simplifiname*{+}
7094 \LWR@simplifiname*{/}
7095 \LWR@simplifiname*{:}
7096 \LWR@simplifiname*{;}
7097 \LWR@simplifiname*{=}
```



```

7098 \LWR@simplifiname*{?}
7099 \LWR@simplifiname*{@}
7100 \LWR@simplifiname*{^}
7101 \LWR@simplifiname*{&}
7102 \LWR@simplifiname*{"}
7103 \LWR@simplifiname*{<}
7104 \LWR@simplifiname*{>}

```

```
7105 \LWR@simplifiname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```

7106 \StrSubstitute{\LWR@thisnewfilename}%
7107   {\LWRleftbrace}{}\[\LWR@thisnewfilename]%
7108 \StrSubstitute{\LWR@thisnewfilename}%
7109   {\LWRrightbrace}{}\[\LWR@thisnewfilename]%

```

```

7110 \LWR@simplifiname{\LWRpercent}
7111 \LWR@simplifiname{\LWRdollar}

```

```

7112 \LWR@simplifiname*{|}
7113 \LWR@simplifiname*{^}
7114 \LWR@simplifiname*{~}
7115 \LWR@simplifiname*{[}
7116 \LWR@simplifiname*{]}
7117 \LWR@simplifiname*{'}

```

Convert short words:

```

7118 \LWR@simplifiname*{-s-}
7119 \LWR@simplifiname*{-S-}
7120 \LWR@simplifiname*{-a-}
7121 \LWR@simplifiname*{-A-}
7122 \LWR@simplifiname*{-an-}
7123 \LWR@simplifiname*{-AN-}
7124 \LWR@simplifiname*{-to-}
7125 \LWR@simplifiname*{-TO-}
7126 \LWR@simplifiname*{-by-}
7127 \LWR@simplifiname*{-BY-}
7128 \LWR@simplifiname*{-of-}
7129 \LWR@simplifiname*{-OF-}
7130 \LWR@simplifiname*{-and-}
7131 \LWR@simplifiname*{-AND-}
7132 \LWR@simplifiname*{-for-}
7133 \LWR@simplifiname*{-FOR-}
7134 \LWR@simplifiname*{-the-}
7135 \LWR@simplifiname*{-THE-}

```

Convert custom words:

```
7136 \LWR@simplifycustom%
```

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```

7137 \ifPDFTeX% pdflatex or dvi latex
7138 \ifdefstring{\inputencodingname}{utf8}{%
7139   \LWR@simplifiname*{-}

```

```

7140 %      emdash
7141   \LWR@simplifiname*{-}
7142 %      emdash
7143 }{ }%
7144 \else% not PDFTeX
7145   \LWR@simplifiname*{-}
7146   \LWR@simplifiname*{-}
7147 \fi%

```

Convert multiple hyphens:

```

7148 \LWR@simplifiname*{-----}
7149 \LWR@simplifiname*{----}
7150 \LWR@simplifiname*{---}
7151 \LWR@simplifiname*{--}

```

If starts with a dash, remove the leading dash:

```

7152 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7153   \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7154 }{ }%

```

If ends with a dash, remove the trailing dash:

```

7155 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7156   \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7157 }{ }%

```

Limits the length of the filename:

```

7158 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%

```

Return the global result:

```

7159 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7160 \endgroup%
7161 \LWR@traceinfo{LWR@filenamenoblanks: result is \LWR@thisfilename}%
7162 }

```

### 63.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {<search>} {<replace>}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```

7163 \bgroup
7164 \catcode'!=3 \catcode'?=3
7165
7166 \long\gdef\LWR@replacestrings@addto#1#2{%
7167   \expandafter\def\expandafter#1\expandafter{#1#2}%

```

```

7168 }
7169
7170 \gdef\LWR@replacestrings#1#2{%
7171   \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7172   \long\def\LWR@replacestringsB##1#1{%
7173     \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
7174     \expandafter\LWR@replacestringsB\fi%
7175   }%
7176   \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7177   \long\def\LWR@replacestringsA##1?{%
7178     \def\tmpb{##1}%
7179   }\expandafter\LWR@replacestringsA\tmpb%
7180 }
7181 \egroup

```

Bool  
LWR@MathJax@silentquotes

If true, double quotes (\ " and ") are removed (used for mathspec). This unfortunately includes double quotes used inside \text with MATHJAX. If false, double quotes are escaped.

```

7182 \newbool{LWR@MathJax@silentquotes}
7183 \boolfalse{LWR@MathJax@silentquotes}

```

\LWR@subHTMLsanitize \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```

7184 \catcode'\#=12
7185 \catcode'\&=12
7186 \newcommand{\LWR@subHTMLsanitize}{%

```

The &, <, and > may be interpreted by the browser:

```

7187   \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7188   \LWR@replacestrings{&}{&amp;}%
7189   \LWR@replacestrings{<}{&lt;}%
7190   \LWR@replacestrings{>}{&gt;}%

```

The quotes occasionally causes problems. For mathspec, also allow neutralization of \ " and the " character.

```

7191   \ifbool{LWR@MathJax@silentquotes}
7192     {%
7193       \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{ }%
7194       \LWR@replacestrings{"}{ }%
7195     }%
7196     {\LWR@replacestrings{"}{&quot;}%
7197   \LWR@replacestrings{'}{&apos;}%
7198   \LWR@replacestrings{'}{&grave;}%

```

MATHJAX allows expressions to be defined with \newcommand. These expressions would appear with ## for each argument, and each must be changed to a single #. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7199   \LWR@replacestrings{##}{#}%
7200   \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7201 }

```

```
7202 \catcode'\#=6
7203 \catcode'\&=4
```

`\LWR@HTMLsanitizedetokenized`  $\{\langle \textit{detokenized text} \rangle\}$

Prints the sanitized text, already detokenized.

```
7204 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7205   \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#1!}%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7206   \begingroup%
7207   \LWR@hook@processingtags%
7208   \edef\LWR@strresult{#1}%
7209   \LWR@subHTMLsanitize%
7210   \LWR@strresult%
7211   \endgroup%
7212   \LWR@traceinfo{\LWR@HTMLsanitize done}%
7213 }
```

`\LWR@HTMLsanitizexpanded`  $\{\langle \textit{text} \rangle\}$

This version must be given the detokenized and expanded text. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```
7214 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7215 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7216 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7217 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7218
7219 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7220 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7221 \edef\LWR@endrightbrace{end\LWRrightbrace}
7222 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7223
7224 \newrobustcmd{\LWR@HTMLsanitizexpanded}[1]{%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7225   \begingroup%
7226   \LWR@hook@processingtags%

7227   \edef\LWR@strresult{#1}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7228   \protect\StrSubstitute{\LWR@strresult}%
7229     {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7230   \protect\StrSubstitute{\LWR@strresult}%
7231     {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7232   \LWR@subHTMLsanitize%
7233   \LWR@strresult%
7234   \endgroup%
7235 }
```

## 63.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7236 \newcommand*{\LWR@customizedMathJax}{}
```

Bool

Used to issue only one warning about using a `\CustomizeMathJax` per macro.

`LWR@warnedcustomizemathjax`

```
7237 \newbool{LWR@warnedcustomizemathjax}
```

```
7238 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` *{<macro definition>}*

```
7239 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
```

```
7240   \begingroup%
```

```
7241   \LWR@hook@processingtags%
```

```
7242   \edef\LWR@strresult{\detokenize{#1}}%
```

```
7243   \LWR@subHTMLsanitize%
```

```
7244   \xdef\LWR@customizedMathJax{%
```

```
7245     \LWR@customizedMathJax%
```

```
7246     \LWR@strresult%
```

```
7247   }%
```

```
7248   \endgroup%
```

```
7249 }
```

```
7250 \@onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax` *{<macro definition>}*

A warning is issued if a very long argument is given.

```
7251 \newcommand*{\CustomizeMathJax}[1]{%
```

```
7252   \ifbool{LWR@warnedcustomizemathjax}{}{%
```

```
7253     \StrLen{\detokenize{#1}}[\LWR@tempone]%
```

```
7254     \ifnumgreater{\LWR@tempone}{350}{%
```

```
7255       \AtEndDocument{%
```

```
7256         \PackageNoteNoLine[lwarp]{%
```

```
7257           To ensure faster MathJax compilation, place each\MessageBreak
```

```
7258           custom macro in its own \protect\CustomizeMathJax.\MessageBreak
```

```
7259           See the Lwarp documentation regarding customizing\MessageBreak
```

```
7260           MathJax%
```

```
7261         }%
```

```
7262       }%
```

```
7263       \booltrue{LWR@warnedcustomizemathjax}%
```

```
7264     }{ }%
```

```
7265   }%
```

```
7266   \appto\LWR@customizedMathJax{\LWRbackslash{ }%
```

```
7267   \LWR@subcustomizedmathjax{#1}}%
```

```
7268   \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
```

```
7269 }
```

```
7270 \@onlypreamble\CustomizeMathJax
```

`\LWR@infoprocessingmathjax` *{<package name>}*

```
7271 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
```

```
7272   \typeout{---}
```

```
7273   \typeout{Package lwarp: Processing MathJax customizations for #1.}}
```

```
7274 \typeout{\space\space This may take a moment.}
7275 \typeout{---}
7276 }
```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment. For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

⚠ `\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>X in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```
7277 \providecommand{\footnotename}{footnote}
7278
7279 % due to warpMathJax:
7280 \end{warpHTML}
7281
7282 \begin{warpMathJax}
7283 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7284   \LWRbackslash(%
7285   \LWRbackslash{ }newcommand%
7286   \{\LWRbackslash{ }footnotename\}%
7287   \{\footnotename\}%
7288   \LWRbackslash)\par%
7289 }
7290 \end{warpMathJax}
```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```
7291 \begin{warpMathJax}
7292 \CustomizeMathJax{\def\LWRfootnote{1}}
7293 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{#1}}}}
7294 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{#1}}}}
```

`\hspace` is modified to accept and ignore a star:

```
7295 \CustomizeMathJax{\let\LWRorighspace\hspace}
7296 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}
```

Various other customizations:

```
7297 \CustomizeMathJax{\newcommand{\mathnormal}[1]{{#1}}}
7298 \CustomizeMathJax{\newcommand\ensuremath[1]{{#1}}}
7299 \CustomizeMathJax{% absorb two optional arguments
7300   \newcommand{\LWRframebox}[2][\fbox{#2}]
7301   \newcommand{\framebox}[1][\LWRframebox]
7302 }
7303 \CustomizeMathJax{\newcommand{\setlength}[2]{{}}
7304 \CustomizeMathJax{\newcommand{\addtolength}[2]{{}}
7305 \CustomizeMathJax{\newcommand{\setcounter}[2]{{}}
7306 \CustomizeMathJax{\newcommand{\addtocounter}[2]{{}}
7307 \CustomizeMathJax{\newcommand{\arabic}[1]{{}}
7308 \CustomizeMathJax{\newcommand{\number}[1]{{}}
```

```

7309 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\\}}
7310 \CustomizeMathJax{\newcommand{\cline}[1]{} }
7311 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7312 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7313 \CustomizeMathJax{\newcommand{\protect}{} }
7314 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7315 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7316 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1]{} }
7317 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][]{\LWRabsorboption}}
7318 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7319 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7320 \CustomizeMathJax{\let\delcode\mathcode}
7321 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7322 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7323 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7324 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7325 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7326 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7327 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7328 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7329 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7330 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7331 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7332 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7333 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7334 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7335 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7336 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7337 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7338 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7339 \end{warpMathJax}
7340
7341
7342 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

7343 \newcommand{\LWR@customizeMathJax}{%
7344 \ifbool{mathjax}{

7345 \LWR@stoppars
7346 \LWR@htmlcomment{MathJax customizations:}
7347
7348 \begin{BlockClass}{hidden}
7349 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7350 {
7351   \LWR@print@ttfamily
7352   \LWR@customizedMathJax

```

```

7353 }
7354 \LWR@startpars
7355 \end{BlockClass}
7356
7357 \LWR@startpars
7358 }{}
7359 }

7360 \end{warpHTML}

```

**for PRINT output:** 7361 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7362 \newcommand*\CustomizeMathJax[1]{}

```

\FilenameSimplify \* {*expression*}

```
7363 \NewDocumentCommand{\FilenameSimplify}{s m}{}

```

```
7364 \end{warpprint}

```

**for HTML output:** 7365 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7366 \newcommand*\LWR@createfooter{%
7367   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{%
7368     \ifdefempty{\LWR@firstpagebottom}{}%
7369       \LWR@htmlElement{footer}
7370
7371       \LWR@firstpagebottom
7372
7373       \LWR@htmlElementend{footer}
7374     }%
7375   }{%
7376     \ifdefempty{\LWR@pagebottom}{}%
7377       \LWR@htmlElement{footer}
7378
7379       \LWR@pagebottom
7380
7381       \LWR@htmlElementend{footer}
7382     }%
7383   }%
7384 }

```

\LWR@newhtmlfile {*section name*}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```

7385 \newcommand*\LWR@newhtmlfile[1]{
7386 \LWR@traceinfo{\LWR@newhtmlfile}

```



At the bottom of the ending file:

```
7387 \LWR@htmlElementclassend{section}{tbody}
7388 \LWR@htmlElementclassend{main}{bodycontainer}
7389 \LWR@htmlElementclassend{div}{bodyandsidetoc}
7390
7391 \LWR@printpendingfootnotes
7392
```

No footer between files if EPUB:

```
7393 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7394 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7395   {}
7396   {\ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7397 \LWR@stoppars
7398 \LWR@htmltag{/body}\LWR@orignewline
7399 \LWR@htmltag{/html}\LWR@orignewline
7400 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
7401 \LWR@maybe@orignewpage

7402 \addtocounter{LWR@htmlfilenumber}{1}%
7403 \addtocounter{LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7404 \ifbool{FileSectionNames}%
7405 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7406   \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7407   \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7408   \ifcsundef{LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
7409     \csdef{LWR@filename\LWR@hashedname}{}%
7410   }{%
```

If the filename is not unique, create an error.

```
7411     \PackageError{lwarp}%
7412       {%
7413         The section name:\MessageBreak
7414         ‘‘#1’’,\MessageBreak
7415         at the line number listed below,\MessageBreak
7416         generates the filename\MessageBreak
7417         ‘‘\LWR@thisfilename’’,\MessageBreak
7418         which appears to be a duplicate. There is a\MessageBreak
7419         previous section with an identical or similar name.\MessageBreak
7420         While generating file names, Lwarp sanitizes math,\MessageBreak
7421         most symbols, and a few common short words,\MessageBreak
7422         and this may cause a conflict.\MessageBreak
7423         Enter ‘H’ for possible solutions%
7424       }%
7425     {%
7426       \LWR@avoiiddupfilenames%
7427     }%
7428   }%
7429 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7430 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7431 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```
7432 \begingroup%
7433 \LWR@nullfonts%
7434 \LWR@htmlblockcomment{%
7435 |Start file|}%
7436 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7437 }
7438 \endgroup%
```

At the top of the starting file:

```
7439 \LWR@stoppars
7440
```

Start a new file with the given section name:

```
7441 \LWR@filestart[#1]
7442
```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

```
7443 \setcounter{LWR@currentautosecfloatchpage}{\value{page}}%
7444 \LWR@newautopagelabel{LWR@currentautosecfloatchpage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7445 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7446   {}
7447   {\LWR@topnavigation}
7448
```

No header if between files if formatting for an EPUB or word processor:

```
7449 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7450   {}
7451   {
7452       \ifdefempty{\LWR@pagetop}{}{
7453           \LWR@htmlElement{header}
7454       }
7455       \LWR@pagetop
7456       \LWR@htmlElementend{header}
7457   }
7458 }
7459 }
7460
```

The container for the sidetoc and text body:

```
7461 \LWR@htmlElementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
7462 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7463   {}
7464   {\LWR@sidetoc}
7465
```

Start of the <textbody>:

```
7466 \LWR@htmlElementclass{main}{bodycontainer}
7467 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7468 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7469 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7470   {%
7471   {%
7472       \ifcvoid{thetitle}{}{%
7473           \LWR@printthetitle%
7474       }%
7475   }%
7476 }
```

Keep paragraph tags disabled for now:

```
7476 \LWR@stoppars
7477
```

If using MATHJAX, print the customizations here.

```
7478 \LWR@customizeMathJax

7479 \LWR@traceinfo{LWR@newhtmlfile: done}
7480 }

7481 \end{warpHTML}
```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

**Unicode accents in filenames** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf<sub>l</sub>atex* to generate characters and *pdf<sub>t</sub>otext* to read them. If extra symbols appear in the text, it may be that *pdf<sub>l</sub>atex* is actually producing a symbol over or under a character, resulting in *pdf<sub>t</sub>otext* picking up the accent symbol separately.

X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7482 \begin{warpHTML}

### 64.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```
7483 \newbool{LWR@forcinghtmlpage}
7484 \boolfalse{LWR@forcinghtmlpage}
7485
7486 \newcommand*{\ForceHTMLPage}{%
7487 \global\booltrue{LWR@forcinghtmlpage}%
7488 }
```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```
7489 \newbool{LWR@forcinghtmltoc}
7490 \boolfalse{LWR@forcinghtmltoc}
7491
7492 \newcommand*{\ForceHTMLTOC}{%
7493 \global\booltrue{LWR@forcinghtmltoc}%
7494 }

7495 \end{warpHTML}
```


**for PRINT output:**

```
7496 \begin{warpprint}
7497 \newcommand*{\ForceHTMLPage}{}
7498 \newcommand*{\ForceHTMLTOC}{}
7499 \end{warpprint}
```

**for HTML output:**

```
7500 \begin{warpHTML}
```

## 64.2 Book class commands

`\mainmatter`  Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.

```
7501 \newbool{LWR@mainmatter}
7502 \DeclareDocumentCommand{\mainmatter}{}{%
7503 \booltrue{LWR@mainmatter}%
7504 }
```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
7505 \DeclareDocumentCommand{\frontmatter}{}{%
7506 \boolfalse{LWR@mainmatter}%
7507 }
```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```
7508 \DeclareDocumentCommand{\backmatter}{}{%
7509 \boolfalse{LWR@mainmatter}
7510 }
```

## 64.3 Sectioning support macros

`\LWR@sectionnumber`  $\langle section\ type \rangle$

Typeset a section number and its trailing space with CSS formatting:

```
7511 \newcommand*{\LWR@sectionnumber}[1]{%
7512 \InlineClass{sectionnumber}{#1}%
7513 }
```

`autosec` A tag used by the TOC and index.


`\LWR@createautosec`  $\{\langle section type \rangle\}$

Create an autosection tag.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

```
7514 \newcommand*\LWR@createautosec}[1]{%
7515 \LWR@htmltag{%
7516   #1 % space
7517   id=\textquotedbl\LWR@print@box{autosec-\arabic{page}}\textquotedbl%
7518 }%
7519 }
```


`\LWR@pushoneclose`  $\{\langle sectiontype \rangle\}$  Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LWR@stoppars` must be executed first.

```
7520 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7521 \LWR@traceinfo{\LWR@pushoneclose #1}%
7522   \LWR@pushclose{#1}%
7523 }
```

`\LWR@startnewdepth`  $\{\langle sectiontype \rangle\}$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LWR@stoppars` must be executed first.

```
7524 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7525 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7526 \LWR@pushoneclose{#1}%
7527 }
```

Ctrl `LWR@prevFileDepth` Remembers the previous `LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7528 \newcounter{LWR@prevFileDepth}
7529 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secCNTformat`  $\{\langle sectiontype \rangle\}$

```
7530 \def\@secCNTformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
7531 \newcommand*\simplechapterdelim}{}
```

`\@chapcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secCNTformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7532 \let\@chapcntformat\@secCNTformat
```

`\@partcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secCNTformat` by default, but may be redefined by `ctex`.

```
7533 \let\@partcntformat\@secCNTformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7534 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

```
7535 \newcommand*\LWR@printchaptername{%
7536   \ifvoid{\chaptername}{\chaptername~}%
7537 }
```

`\LWR@section` \* [ $\langle TOC name \rangle$ ]  $\{\langle name \rangle\}$   $\{\langle sectiontype \rangle\}$

The common actions for the high-level sectioning commands.

```
7538 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7539   \IfValueTF{#2}%
7540     {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7541     {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a `<span>`:

```
7542   \LWR@spanwarninvalid{section}%
```

```
7543 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7544 \LWR@stoppars%
7545 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7546 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for `appendix`.

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```
7547 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
```

```

7548 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7549 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{%
7550 \ifthenelse{%
7551   \(%
7552     \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7553     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7554     \(\boolean{LWR@forcinghtmlpage}\)%
7555   \)%
7556   \AND%
7557   \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7558   \AND%
7559   \(%
7560     \NOT\boolean{CombineHigherDepths}\OR%
7561     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7562   \)%
7563   \AND%

7564   \(% phantomsection
7565     \NOT\isempty{#3}%
7566     \OR%
7567     \(\NOT\equal{#1}{\BooleanTrue}\)%
7568   \)%
7569 }%

```

If so: start a new HTML file:

```

7570 {% new file
7571   \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7572   \IfNoValueTF{#2}%

```

If no optional entry

```

7573     {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7574     {\LWR@newhtmlfile{#2}}%
7575 }% new file

```

Else: No new HTML file:

```

7576 {% not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7577   \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7578   \LWR@maybe@orignewpage%
7579 }% not new file
7580

```

Remember this section's name for \nameref:

```

7581 \IfValueT{#3}{%

```



```

7582 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7583 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7584 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML  
section opening comments, so the short toc entry is used if possible, and a limited  
opening comment is made if the sectional unit is starred.

```

7585 \begingroup%
7586 \LWR@nullfonts%
7587 \LWR@nullifyfootnotes%
7588 \LWR@htmlcomment{%
7589 \LWR@orignewline%
7590 \IfValueTF{#2}%
7591 {..... #4 #2 .....}%
7592 {..... #4 #3 .....}%
7593 \LWR@orignewline%
7594 }%
7595 \LWR@orignewline%
7596 \ifbool{HTMLDebugComments}%
7597 {%
7598 \IfBooleanTF{#1}% starred
7599 {%
7600 \IfNoValueTF{#2}% short TOC
7601 {\LWR@htmlcomment{Opening #4* ‘#3’}}%
7602 {\LWR@htmlcomment{Opening #4* ‘#2’}}%
7603 }%
7604 {%
7605 \IfNoValueTF{#2}% short TOC
7606 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7607 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7608 }%
7609 \LWR@orignewline%
7610 }%
7611 }%
7612 \endgroup%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7613 \ifthenelse{%
7614 \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7615 }%
7616 {\LWR@startpars}%
7617 }%

```

Create the opening tag with an autosec:

```

7618 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7619 \LWR@createautosec{\@nameuse{LWR@tag#4}}%

7620 \setcounter{LWR@currentautosecpage}{\value{page}}%

```

Check if starred:

```

7621 \IfBooleanTF{#1}%
7622 {%
7623 \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7624 \ifbool{LWR@forcinghtmltoc}%
7625 {%
7626     \addcontentsline{toc}{#4}{%
7627         \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7628     }%
7629 }%
7630 {}%
7631 }% starred

```

Not starred, so step counter and add to TOC:

```
7632 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```

7633 \ifthenelse{%
7634     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7635 }%
7636 {% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```

7637 \LWR@traceinfo{LWR@section: about to test main matter}%
7638 \ifbool{LWR@mainmatter}%
7639 {%
7640     \LWR@traceinfo{LWR@section: yes mainmatter}%
7641     \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

7642 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7643 \addcontentsline{toc}{#4}%
7644 {%
7645     \protect\numberline{%
7646         \@nameuse{pre#4name}%
7647         \@nameuse{the#4}%
7648         \@nameuse{post#4name}%
7649     }%
7650     {%
7651         \ignorespaces%
7652         \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7653     }%
7654 }%
7655 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7656 }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7657 {% not main matter
7658     \LWR@traceinfo{LWR@section: no main matter}%
7659     \addcontentsline{toc}{#4}{%
7660         \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7661     }%
7662 }% end of not main matter
7663 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
7664   {%
7665     \addcontentsline{toc}{#4}{%
7666       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7667     }%
7668   }%
```

For part, print “Part”:

```
7669   \ifbool{LWR@mainmatter}%
7670   {%
7671     \ifthenelse{%
7672       \(\cnttest{\@nameuse{LWR@depth#4}}{<=}
7673       {\value{secnumdepth}}\)\ \AND%
7674       \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7675     }%
7676     {\@partnameformat}%
7677   }%
```

Print the section number:

```
7678   \LWR@traceinfo{LWR@section: about to print section number}%
7679   \ifthenelse{%
7680     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7681   }%
7682   {%
7683     \ifstrequal{#4}{part}%
7684     {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7685     {%
7686       \ifstrequal{#4}{chapter}%
7687       {%
7688         \LWR@printchaptername%
7689         \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7690       }%
7691       {\protect\LWR@sectionnumber{\@secCNTformat{#4}}}%
7692     }%
7693   }%
7694   {%
7695     \LWR@traceinfo{LWR@section: finished print section number}%
7696   }%
7697 }% not starred
```

Print the section name:

```
7698 \LWR@traceinfo{LWR@section: about to print the section name}%
7699 \LWR@isolate{#3}%
```

Close the heading tag, such as /H2:

```
7700 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7701 \LWR@htmltag{\@nameuse{LWR@tag#4end}}%
7702 \LWR@orignewline%
```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for LWR@currentautosecpage for the start of the section, and

also for the current page if it is different due to an svg image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
7703 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7704 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7705 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7706 \ifbool{LWR@setseqfilelabel}{}{%
7707   \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7708   \booltrue{LWR@setseqfilelabel}%
7709 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7710 \ifthenelse{%
7711   \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7712 }%
7713   {\LWR@startpars}%
7714   {}%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part\* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter\* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```
7715 \ifthenelse{%
7716   \NOT\equal{#1}{\BooleanTrue}\OR%
7717   \cnttest{\@nameuse{LWR@depth#4}}{=} {\LWR@depthpart}%
7718 }%
7719   {% not starred
7720     \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7721   }% not starred
7722   {}%
```

Reset to defaults if not a phantomsection:

```
7723 \ifstrempy{#3}%
7724   {}%
7725   {%
7726     \global\boolfalse{LWR@forcinghtmlpage}%
7727     \global\boolfalse{LWR@forcinghtmltoc}%
7728   }%
7729 %
7730 \LWR@traceinfo{LWR@section: done}%
7731 }
```

## 64.4 Pre- and post- sectioning names

<code>\prebookname</code>	Usually null, but is used by <code>uj*</code> and <code>ut*</code> Japanese classes.
<code>\postbookname</code>	
	7732 <code>\providecommand*\prebookname{}</code>
	7733 <code>\providecommand*\postbookname{}</code>
<code>\prepartname</code>	Usually null, but is used by <code>uj*</code> and <code>ut*</code> Japanese classes.
<code>\postpartname</code>	
	7734 <code>\providecommand*\prepartname{}</code>
	7735 <code>\providecommand*\postpartname{}</code>
<code>\prechaptername</code>	Usually null, but is used by <code>uj*</code> and <code>ut*</code> Japanese classes.
<code>\postchaptername</code>	
	7736 <code>\providecommand*\prechaptername{}</code>
	7737 <code>\providecommand*\postchaptername{}</code>
<code>\presectionname</code>	Always null, but provided here for algorithmic simplicity in <code>\LWR@section</code> .
<code>\postsectionname</code>	
	7738 <code>\providecommand*\presectionname{}</code>
	7739 <code>\let\postsectionname\presectionname</code>
	7740
	7741 <code>\let\presubsectionname\presectionname</code>
	7742 <code>\let\postsubsubsectionname\postsectionname</code>
	7743
	7744 <code>\let\presubsubsectionname\presectionname</code>
	7745 <code>\let\postsubsubsectionname\postsectionname</code>
	7746
	7747 <code>\let\preparagraphname\presectionname</code>
	7748 <code>\let\postparagraphname\postsectionname</code>
	7749
	7750 <code>\let\presubparagraphname\presectionname</code>
	7751 <code>\let\postsubparagraphname\postsectionname</code>

## 64.5 `\section` and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```

\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7752 \newcommand{\part@preamble}{}% for koma-script
7753
7754 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7755   \LWR@section{#1}{#3}{#6}{part}%
7756
7757   \part@preamble% for koma-script
7758   \renewcommand{\part@preamble}{}%
7759 }

```

`\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7760 \let\@printcites\relax% for quotchap package
7761
7762 \newcommand{\chapter@preamble}{}% for koma-script
7763
7764 \ifundefined{chapter}
7765 {}
7766 {%
7767   \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7768     \LWR@section{#1}{#3}{#6}{chapter}%
7769
7770     \@printcites% for quotchap package
7771
7772     \chapter@preamble% for koma-script
7773     \renewcommand{\chapter@preamble}{}%
7774   }
7775 }

```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7776 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7777   \LWR@section{#1}{#3}{#6}{section}%
7778 }

```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7779 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7780   \LWR@section{#1}{#3}{#6}{subsection}%
7781 }

```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7782 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7783   \LWR@section{#1}{#3}{#6}{subsubsection}%
7784 }

```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7785 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7786   \LWR@section{#1}{#3}{#6}{paragraph}%
7787 }

```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7788 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7789   \LWR@section{#1}{#3}{#6}{subparagraph}%
7790 }

```

```

7791 \end{warpHTML}

```

## 65 Starting a new file

**for HTML & PRINT:** 7792 `\begin{warpall}`

`\HTMMLanguage` Default language for the HTML lang tag.

```
7793 \newcommand*\LWR@currentHTMMLanguage}{en-US}
7794
7795 \newcommand*\HTMMLanguage}[1]{%
7796   \renewcommand*\LWR@currentHTMMLanguage}{#1}%
7797 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7798 \ifPDFTeX% pdflatex or dvi latex
7799   \ifdefstring{\inputencodingname}{utf8}{%
7800     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7801   }{%
7802     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7803   }%
7804 \else%
7805   \ifpTeX
7806     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7807   \else
7808     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7809   \fi%
7810 \fi%
```

`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7811 \newcommand*\HTMLTitleBeforeSection}{%
7812   \def\theHTMLTitleSection{%
7813     \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7814   }%
7815 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7816 \newcommand*\HTMLTitleAfterSection}{%
7817   \def\theHTMLTitleSection{%
7818     \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7819   }%
7820 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7821 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7822 \newcommand*{\theHTMLSection}{}
```

```
7823 \end{warpall}
```

**for HTML output:** 7824 \begin{warpHTML}

`\LWR@filestart` [*<section name>*] Creates the opening HTML tags.

```
7825 \newcommand*{\LWR@filestart}[1][\%
7826 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7827 \begingroup%
7828 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7829 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7830 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
7831 \StrSubstitute{\theHTMLSection}%
7832   {\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]%
7833 \StrSubstitute{\theHTMLSection}%
7834   {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
7835 \StrSubstitute{\theHTMLSection}%
7836   {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7837 \StrSubstitute{\theHTMLSection}%
7838   {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7839 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7840   \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7841 }{%}
```

Create the page's HTML header:

```
7842 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: `\LWR@orig@textquotedbl` is used here because `\textquotedbl` is nullified by `\LWR@nullfonts` while starting the new file.

```
7843 \LWR@htmltag{%
7844   html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7845 }\LWR@orignewline
```

Start of the meta data:

```
7846 \LWR@htmltag{head}\LWR@orignewline
```



Charset is fixed at UTF-8:

```
7847 \LWR@htmltag{%
7848     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7849 }\LWR@orignewline
```

Author:

```
7850 \ifthenelse{\equal{\theHTMLAuthor}{}}%
7851     {}%
7852     {%
7853         \LWR@htmltag{%
7854             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7855             content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7856             }\LWR@orignewline%
7857     }%
```

lwarp is the generator:

```
7858 \LWR@htmltag{%
7859     meta % space
7860     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7861     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7862 }\LWR@orignewline%
```

If there is a description, add it now:

```
7863 \ifdefempty{\LWR@currentHTMLDescription}{}{%
7864     \LWR@htmltag{%
7865         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7866         content=\LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7867     }\LWR@orignewline
7868 }%
```

Mobile-friendly viewport:

```
7869 \LWR@htmltag{%
7870     meta % space
7871     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7872     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7873 }\LWR@orignewline
```

IE patch:

```
7874 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
7875 \LWR@htmltag{%
7876     script % space
7877     src=\LWR@orig@textquotedbl{}%
7878     http://html5shiv.googlecode.com/svn/trunk/html5.js%
7879     \LWR@orig@textquotedbl%
7880 }%
7881 \LWR@htmltag{/script}\LWR@orignewline
7882 \LWR@htmltag{![endif]-\/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7883 \ifthenelse{\equal{\theHTMLTitle}{}}%
7884     {}%
```

```

7885   {%
7886     \LWR@htmltag{title}%
7887     \ifdefempty{\theHTMLSection}%
7888       {\theHTMLTitle}%
7889       {\theHTMLTitleSection}%
7890     \LWR@htmltag{/title}\LWR@orignewline%
7891   }%

```

The page's stylesheet:

```

7892 \LWR@htmltag{%
7893   link % space
7894   rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7895   type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7896   href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7897 }%
7898 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7899 \ifbool{mathjax}%
7900 {%
7901   \begingroup%
7902   \LWR@restoreoriglists%
7903   \boolfalse{LWR@verbtags}%

7904     \IfFileExists{\LWR@mathjaxfilename}%
7905       {\verbatiminput{\LWR@mathjaxfilename}}%
7906       {%
7907         \PackageError{lwarp}%
7908           {%
7909             \protect\MathJaxFilename\space specified the file\MessageBreak
7910               \space\space\LWR@mathjaxfilename\MessageBreak
7911               which does not exist%
7912             }%
7913           {Specify an existing file, or remove \protect\MathJaxFilename.}%
7914         }%

7915   \booltrue{LWR@verbtags}%
7916   \endgroup%
7917   \LWR@stoppars%
7918 }% end of mathjax
7919 {}%

```

End of the header:

```
7920 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```

7921 \LWR@htmltag{body}\LWR@orignewline

7922 \endgroup%
7923 \LWR@traceinfo{LWR@filestart: done}%
7924 }

```

```
7925 \end{warpHTML}
```

## 66 Starting HTML output

**for HTML output:** 7926 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7927 \catcode'\$=\active
7928 \newcommand*\LWR@LwarpStart{
7929 {%
7930 \LWR@traceinfo{LWR@lwarpStart}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7931 \ifbool{FormatWP}{%
7932   \setcounter{FileDepth}{-5}%
7933   \boolfalse{HTMLDebugComments}%
7934 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7935 \edef\LWR@strresult{\HomeHTMLFilename}
7936 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7937 \edef\LWR@strresult{\HTMLFilename}
7938 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7939 \LWR@origonecolumn%
7940 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7941 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7942 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7943 \LWR@print@raggedright%
7944 \LetLtxMacro{\}\LWR@endofline%
```

Spread the lines for *pdftotext* to read them well:

```
7945 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7946 \setlength{\parindent}{0pt}
7947 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
7948 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7949 \setlength{\belowcaptionskip}{0ex}
```

```
7950 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7951 \renewcommand{\ps@plain}{} 
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7952 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7953 \global\booltrue{LWR@doingparhooks}
```

```
7954 \global\boolfalse{LWR@doingapar}
```

```
7955 \global\boolfalse{LWR@doingstartpars}
```

`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
7956 \let\color@endgroup\endgroup
```

Document and page settings:

```
7957 \mainmatter
```

```
7958 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7959 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
```

```
7960 \LWR@filestart%
```

Tell *lwarpmk* that the `lwarp` package is in use. This allows *lwarpmk* to warn if `usepackage{lwarp}` was somehow disabled.

```
7961 \begingroup%
```

```
7962 \LWR@nullfonts%
```

```
7963 \LWR@htmlblockcomment{%
```

```
7964 |Using lwarp|%
```

```
7965 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
```

```
7966 }
```

```
7967 \endgroup%
```

```
7968 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7969 \ifdefempty{\LWR@firstpagetop}{}{%
```

```
7970   \LWR@htmltag{header}\LWR@orignewline
```

```
7971   \LWR@startpars
```

```
7972   \LWR@firstpagetop
```

```
7973   \LWR@stoppars
```

```
7974 \LWR@htmltag{/header}\LWR@orignewline
7975 }%
```

```
7976 \LWR@htmlclass{div}{bodywithoutsidetoc}
7977 \LWR@htmlclass{main}{bodycontainer}
7978 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7979 \LWR@htmlclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7980 \booltrue{LWR@setseqfilelabel}%
7981 \Label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\LaTeX$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7982 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7983 \catcode'\$=\active
```

Required for `\nameref` to work with SVG math:

```
7984 \immediate\write\@mainaux{\catcode'\string\$\active}%
7985 \LetLtxMacro\LWR@syntaxhighlightone balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
7986 \LWR@startpars
```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
7987 \ifbool{mathjax}{
7988   \typeout{---}
7989   \typeout{Package lwarp:}
7990   \typeout{Processing MathJax customizations for the first HTML page.}
7991   \typeout{Later HTML pages will take the same amount of time.}
7992   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7993 }{}
7994
7995 \LWR@customizeMathJax
7996
7997 \ifbool{mathjax}{
7998   \typeout{Done.}
7999   \typeout{---}
8000 }{}
```

First autepage label in case a figure occurs early before the first section: A new autepage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```
8001 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8002 \LWR@newautopagelabel{LWR@currentautosecpage}%
```

```

8003 \LWR@traceinfo{LWR@lwarpStart: done}
8004 }
8005 \catcode'\$=3% math shift until lwarp starts

8006 \end{warpHTML}

```

## 67 Ending HTML output

**for HTML output:** 8007 \begin{warpHTML}

`\LWR@requesttoc`  $\{\langle boolean \rangle\} \{\langle suffix \rangle\}$  Requests that a TOC, LOF, or LOT be generated.

```

8008 \newcommand*\LWR@requesttoc[2]{%
8009 \ifbool{#1}
8010 {
8011   \expandafter\newwrite\@nameuse{tf@#2}
8012   \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
8013 }{}
8014 }

```

`\LWR@LwarpEnd` Final stop of all HTML output:

```

8015 \newcommand*\LWR@LwarpEnd}
8016 {
8017 \LWR@stoppars
8018 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Print any pending footnotes:

```
8019 \LWR@printpendingfootnotes
```

Close the textbody.

(The `\LWR@origtilde` is in case no autopage is required for the label, which would not print anything, and something must be printed before the newline.)

```
8020 \label{\BaseJobname-autofile-last}\LWR@origtilde\LWR@orignewline
```

```

8021 \LWR@htmlElementclassend{section}{textbody}
8022 \LWR@htmlElementclassend{main}{bodycontainer}
8023 \LWR@htmlElementclassend{div}{bodyandsidetoc}

```

Create the footer if not EPUB

```
8024 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```

8025 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}
8026   {}
8027   {
8028     \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{
8029   }

```

8030 \LWR@stoppars% final stop of all paragraphs

Finish the HTML file:

```

8031 \LWR@htmltag{/body}\LWR@orignewline
8032 \LWR@htmltag{/html}\LWR@orignewline

```

Seems to be required sometimes:

```

8033 \LWR@maybe@orignewpage
8034 }

```

Hook [LaTeX] `enddocument/info` Used to close the `*-images.txt` file.

`\enddocument` If labels have not changed, mark successful completion of the `lateximages.txt` file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```

8035 \ifdef{\AddToHook}{% newer kernel
8036   \AddToHook{enddocument/info}{%
8037     \if@filesw
8038       \ifx \@multiplelabels \relax
8039         \if@tempswa

```

This is where warnings of duplicate labels would appear.

```

8040   \else

```

No duplicate labels, so safe to create images.

```

8041     \immediate\write\LWR@lateximagesfile{%
8042       |end|end|end|
8043     }%
8044     \fi
8045     \fi\fi
8046   }
8047 }% newer kernel
8048 {% older kernel
8049   \xpatchcmd{\enddocument}
8050     {%
8051       \if@tempswa
8052         \@latex@warning@no@line{Label(s) may have changed.
8053           Rerun to get cross-references right}%
8054       \fi
8055     }
8056     {%
8057       \if@tempswa
8058         \@latex@warning@no@line{Label(s) may have changed.
8059           Rerun to get cross-references right}%
8060       \else

```

No duplicate labels, so safe to create images.

```

8061         \immediate\write\LWR@lateximagesfile{%
8062             |end|end|end|%
8063         }%
8064     \fi
8065 }
8066 {}
8067 {
8068     \AtEndDocument{
8069         \PackageWarningNoLine{lwarp}
8070         {%
8071             Could not patch \protect\enddocument.\MessageBreak
8072             If labels have changed, be sure to recompile before\MessageBreak
8073             creating lateximages with\MessageBreak
8074             \space\space lwarpmk limages,\MessageBreak
8075             or the images may be corrupt%
8076         }
8077     }
8078 }
8079 }% older kernel

```

## 68 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

Hook  
shipout/background

[LaTeX] Nullified.

Hook  
shipout/foreground

[LaTeX] Nullified.

```

8080 \ifdef{\RemoveFromHook}{
8081     \AfterEndPreamble{
8082         \IfHookEmptyTF{shipout/background}{}{
8083             \PackageInfo{lwarp}{Removing background hook}
8084             \RemoveFromHook{shipout/background}[*]
8085         }
8086         \IfHookEmptyTF{shipout/foreground}{}{
8087             \PackageInfo{lwarp}{Removing foreground hook}
8088             \RemoveFromHook{shipout/foreground}[*]
8089         }
8090     }
8091 }{}

8092 \end{warpHTML}

```

## 69 Title page

[package support](#) lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.



[load order](#)

[\published and \subtitle](#) If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

[affiliation](#) lwarp provides for the `\author` macro an additional `\affiliation` macro to pro-



vide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage's \theauthor` in the main text.

<a href="#">reusing titlepage information</a>	The titling package maintains the definitions of <code>\thetitle</code> , <code>\theauthor</code> , etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the <code>\thanks</code> and <code>\affiliation</code> removed, and for <code>\author</code> the <code>\and</code> is replaced to generate a simple inline list of authors separated by commas. Note: <code>\theauthor</code> does not work well with <code>authblk</code> unless the traditional L <sup>A</sup> T <sub>E</sub> X syntax is used.
⚠ <code>\theauthor</code> , <code>authblk</code>	
<a href="#">custom titlepages</a>	<code>\printtitle</code> , <code>\printauthor</code> , etc., are provided for use inside a custom <code>titlepage</code> or <code>titlingpage</code> environment, and these retain the <code>\thanks</code> and <code>\affiliation</code> .
<code>\printthanks</code>	<code>\printthanks</code> has been added to force the printing of thanks inside a <code>titlingpage</code> environment when <code>\maketitle</code> is not used.
⚠ <code>\thanks</code>	Inside a <code>\titlepage</code> or <code>\titlingpage</code> environment, use <code>\thanks</code> instead of <code>\footnote</code> for acknowledgements, etc.

## 69.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

<code>\author</code> <code>\and</code>	<code>{\author}</code> While using <code>\maketitle</code> and print mode, the author is treated as a single-column <code>tabular</code> and the <code>\and</code> feature finishes the current <code>tabular</code> then starts a new one for the next author. Each author thus is placed into its own <code>tabular</code> , and an affiliation may be placed on its own line such as
---	---

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

<code>\@title</code> <code>\@author</code> <code>\@date</code>	<code>\@title</code> , <code>\@author</code> , and <code>\@date</code> store the values as originally assigned, including any <code>\thanks</code> , <code>\and</code> , or <code>\affiliation</code> . These are low-level macros intended to be used by other macros only inside a <code>titlepage</code> or <code>titlingpage</code> , and are used by <code>\maketitle</code> . The author is printed inside a single-column <code>tabular</code> , which becomes multiple single-column <code>tabulars</code> if multiples authors are included. For HTML, these <code>tabulars</code> become side-by-side <code>&lt;div&gt;s</code> of class <code>oneauthor</code> , all of which are combined into one <code>&lt;div&gt;</code> of class <code>author</code> .
--	--

<code>\printtitle</code> <code>\printauthor</code> <code>\printdate</code>	<code>\printtitle</code> , etc. are user-level macros intended to be used in custom <code>titlepage</code> or <code>titlingpage</code> environments in cases where <code>\maketitle</code> is not desired. These commands preserve the <code>\thanks</code> , etc., and should not be used in the main text.
--	--

<code>\thetitle</code> <code>\theauthor</code> <code>\thedata</code> <code>\HTMLPageBottom</code>	<code>\thetitle</code> , <code>\theauthor</code> , and <code>\thedata</code> are available if <code>titling</code> has been loaded, and are sanitized user-level versions from which have been removed the <code>\thanks</code> and <code>\affiliation</code> , and <code>\and</code> is changed for inline text usage. The author is printed inline without <code>\affiliation</code> or <code>\thanks</code> , with <code>\and</code> placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:
--	--

```
\HTMLPageBottom{
  \begin{center}\textcopyright~20xx \theauthor\end{center}}
```

```
}

```

△ **\theauthor, authblk** `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

△ **affiliations** After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

**\affiliation** A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 69.2 \if@titlepage

**for HTML & PRINT:** 8093 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
8094 \ifcvoid{@titlepagefalse}{
8095   \newif\if@titlepage
8096   \@titlepagefalse
8097 }{}

8098 \end{warpall}
```

## 69.3 Changes for \affiliation

`\affiliation` `{⟨text⟩}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 8099 `\begin{warpall}`  
8100 `\providerobustcmd{\affiliation}[1]{}`  
8101 `\end{warpall}`

**for PRINT output:** 8102 `\begin{warpprint}`

```
8103 \AtBeginEnvironment{titlepage}{
8104 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
8105 }
8106
8107 \AtBeginDocument{
8108 \IfPackageLoadedTF{titling}{
8109 \AtBeginEnvironment{titlingpage}{
8110 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
8111 }
```

```
8112 }{}% titling loaded
8113 }% AtBeginDocument
```

```
8114 \end{warpprint}
```

**for HTML output:** 8115 \begin{warpHTML}

**Env** `titlepage` Sets up a <div> of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```
8116 \DeclareDocumentEnvironment{titlepage}{}
8117 {%
8118   \renewrobustcmd{\affiliation}[1]{\ \ \ \InlineClass{affiliation}{##1}}%
8119   \LWR@printpendingfootnotes
8120   \LWR@forcenewpage
8121   \BlockClass{titlepage}
8122 }
8123 {
8124   \endBlockClass
8125   \LWR@printpendingfootnotes
8126 }

8127 \end{warpHTML}
```

## 69.4 Printing the thanks

`\printthanks` Forces the `\thanks` to be printed. This is necessary in a `titlingpage` environment when `\maketitle` was not used.

**for PRINT output:** 8128 \begin{warpprint}  
8129 \newcommand\*{\printthanks}{\@thanks}  
8130 \end{warpprint}

**for HTML output:** 8131 \begin{warpHTML}  
8132 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
8133 \end{warpHTML}

## 69.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in HTML:

**for HTML output:** 8134 \begin{warpHTML}

`\printtitle`

```
8135 \newcommand*{\printtitle}
8136 {%
8137   \LWR@stoppars%
8138   \LWR@htmltag{\LWR@tagtitle}%
8139   \@title%
8140   \LWR@htmltag{\LWR@tagtitleend}%
8141   \LWR@startpars%
8142 }
```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
8143 \newcommand*\LWR@printthetitle}
8144 {%
8145   \LWR@stoppars%
8146   \LWR@htmltag{\LWR@tagtitle}%
8147   \thetitle%
8148   \LWR@htmltag{\LWR@tagtitleend}%
8149   \LWR@startpars%
8150 }
```

`\printauthor` HTML version.

```
8151 \newcommand*\printauthor}{
```

The entire author block is contained in a <div> named author:

```
8152 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
8153 \renewcommand{\and}{%
8154 \end{BlockClass}
8155 \begin{BlockClass}{oneauthor}
8156 }
```

Individual authors are contained in a <div> named oneauthor:

```
8157 \begin{BlockClass}{oneauthor}
8158 \@author
8159 \end{BlockClass}
8160 \end{BlockClass}
8161 }
```

`\printdate`

```
8162 \newcommand*\printdate}{%
8163 \begin{BlockClass}{titledate}
8164 \@date
8165 \end{BlockClass}
8166 }
```

```
8167 \end{warpHTML}
```

## 69.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** `8168 \begin{warpprint}`

`\printtitle`

```
8169 \newcommand*\printtitle>{{\Huge\@title}}
```

`\printauthor` Print mode.

```
8170 \newcommand*{\printauthor}
8171   {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

`\printdate`

```
8172 \newcommand*{\printdate}{{\small\textit{\@date}}}
8173 \end{warpprint}
```

## 69.7 `\maketitle` for HTML output

An HTML `<div>` of class `titlepage` is used.

`\thanks` are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** 8174 `\begin{warppHTML}`

```
8175 \IfClassLoadedTF{memoir}
8176 {
8177   \newcommand{\LWR@setfootnoteseries}{%
8178     \renewcommand\thefootnote{\@arabic\c@footnote}%
8179   }
8180 }{% not memoir
8181 \if@titlepage
8182   \newcommand{\LWR@setfootnoteseries}{%
8183     \renewcommand\thefootnote{\@arabic\c@footnote}%
8184   }
8185 \else
8186   \newcommand{\LWR@setfootnoteseries}{%
8187     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8188   }
8189 \fi
8190 }{% not memoir
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
8191 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
8192 \LWR@setfootnoteseries%
8193 \def\@makefnmark{%
8194   \textsuperscript{\thefootnote}%
8195 }
```

`\thefootnote`  $\Rightarrow$  `\nameuse{arabic}{footnote}`, or  
`\thefootnote`  $\Rightarrow$  `\nameuse{fnsymbol}{footnote}`

Redefine the footnote text:

```
8196 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8197 \textsuperscript{\@thefnmark}~%
```

```
\makethanksmark ⇒ \thanksfootmark ⇒ \tmark ⇒
\@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
8198 {##1}%
8199 }%
8200 }
```

```
\@fnsymbol {⟨counter⟩}
```

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
8201 \def\LWR@HTML@fnsymbol#1{%
8202   \ifcase#1\or * \or
8203   \HTMLentity{dagger} \or
8204   \HTMLentity{Dagger} \or
8205   \HTMLentity{sect} \or
8206   \HTMLentity{para} \or
8207   \HTMLunicode{2016} \or
8208   ** \or
8209   \HTMLentity{dagger} \HTMLentity{dagger} \or
8210   \HTMLentity{Dagger} \HTMLentity{Dagger} \else
8211   \@ctrerr\fi%
8212 }
8213 \LWR@formatted{@fnsymbol}
```

```
\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.
```

Code from the titling package is adapted, simplified, and modified for HTML output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

```
8214 \newcommand*{\LWR@maketitle}{%
```

An HTML titlepage `<div>` is used for all classes.

```
8215 \begin{titlepage}
```

Set up special patches:

```
8216 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8217 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8218 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

8219 \end{titlepage}
8220 \setcounter{footnote}{0}%
8221 \global\let\thanks\relax
8222 \global\let\maketitle\relax
8223 \global\let\@maketitle\relax
8224 \global\let\@thanks\@empty
8225 \global\let\@author\@empty
8226 \global\let\@date\@empty
8227 \global\let\@title\@empty
8228 \global\let\title\relax
8229 \global\let\author\relax
8230 \global\let\date\relax
8231 \global\let\and\relax
8232 }
8233
8234 \LetLtxMacro\maketitle\LWR@maketitle

```

`\@maketitle` HTML mode. Typesets the title, etc.:

```

8235 \providecommand*\@maketitle{}
8236 \renewrobustcmd*\@maketitle{%
8237   \LWR@stoppars%
8238   \LWR@htmltag{\LWR@tagtitle}%
8239   \@title%
8240   \LWR@htmltag{\LWR@tagtitleend}%
8241   \LWR@startpars%
8242   \begin{BlockClass}{author}%

```

For IEEEtran class:

```

8243   \renewcommand*\cr{}%
8244   \renewcommand*\rcr{}%
8245   \renewcommand*\noalign{}%

8246   \renewcommand{\and}{%
8247     \end{BlockClass}%
8248     \begin{BlockClass}{oneauthor}%
8249   }%
8250   \begin{BlockClass}{oneauthor}%
8251     \@author%
8252   \end{BlockClass}%
8253 \end{BlockClass}%
8254 \begin{BlockClass}{titledate}%
8255   \@date%
8256 \end{BlockClass}%
8257 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```

8258 \newcommand*\LWR@titlingmaketitle{%

```

Keep pending footnotes out of the title block:

```

8259 \LWR@stoppars\@thanks\LWR@startpars

```

Set up special patches:

```
8260 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8261 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8262 \LWR@stoppars\@thanks\LWR@startpars
8263 }
```


```
8264 \end{warpHTML}
```

## 69.8 \published and \subtitle

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

**for HTML & PRINT:** 8265 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```
8266 \newcommand*\AddSubtitlePublished{%
8267 \IfPackageLoadedTF{titling}{% yes titling package
8268   \newcommand{\@published}{}%
8269   \newcommand{\published}[1]{\gdef\@published{##1}}%
8270   \renewcommand*\maketitlehooka{\printpublished}%
8271   \newcommand*\printpublished{%
8272     \warpprintonly{\begin{center}\unskip}%
8273     \begin{BlockClass}{published}%
8274     \warpprintonly{\large\itshape}%
8275     \@published%
8276     \end{BlockClass}%
8277     \warpprintonly{\end{center}}%
8278   }%
8279   \newcommand{\@subtitle}{}%
8280   \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8281   \renewcommand*\maketitlehookb{\printsubtitle}%
8282   \newcommand*\printsubtitle{%
8283     \warpprintonly{\begin{center}\unskip}%
8284     \begin{BlockClass}{subtitle}%
8285     \warpprintonly{\Large\itshape}%
8286     \@subtitle%
```



```

8287     \end{BlockClass}%
8288     \warpprintonly{\end{center}}%
8289   }%
8290 }% yes titling package
8291 {% no titling package

8292   \def\@published{}%
8293   \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8294   \DeclareDocumentCommand{\printpublished}{}{}%
8295   \def\@subtitle{}%
8296   \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8297   \DeclareDocumentCommand{\printsubtitle}{}{}%
8298 }% no titling package
8299 }% \AddSubtitlePublished

8300 \end{warppall}

```

## 70 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8301 \begin{warppHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

```
8302 \providecommand*\abstractname{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env abstract

```

8303 \DeclareDocumentEnvironment{abstract}{0{\abstractname}}
8304 {
8305   \LWR@forcenewpage
8306   \BlockClass{abstract}
8307   \BlockClassSingle{abstracttitle}{#1}
8308 }
8309 {
8310   \endBlockClass
8311 }

8312 \end{warppHTML}

```

## 71 Quote and verse

### 71.1 Attributions

\attribution {<name>}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\textsl{Book Title}}

**for HTML & PRINT:** 8313 \begin{warpall}  
 8314 \newcommand{\attribution}[1]{  
 8315 \begin{flushright}  
 8316 \unskip  
 8317 #1  
 8318 \end{flushright}}%  
 8319 }  
 8320 \end{warpall}

**for HTML output:** 8321 \begin{warpHTML}  
 8322 \newcommand{\LWR@HTML@attribution}[1]{%  
 8323 \LWR@stoppars%  
 8324 \begin{BlockClass}{attribution}  
 8325 #1  
 8326 \end{BlockClass}  
 8327 \LWR@startpars%  
 8328 }  
 8329 \LWR@formatted{attribution}  
 8330 \end{warpHTML}

## 71.2 Quotes, quotations

**for HTML output:** 8331 \begin{warpHTML}

Env quote

```
8332 \newenvironment*{\LWR@HTML@quote}
8333 {
8334 \LWR@forcenewpage
8335 \LWR@htmlblocktag{blockquote}
8336 }
8337 {\LWR@htmlblocktag{/blockquote}}
8338
8339 \LWR@formattedenv{quote}
```

Env quotation

```
8340 \newenvironment*{\LWR@HTML@quotation}
8341 {
8342 \LWR@forcenewpage
8343 \LWR@htmlblocktag{blockquote}
8344 }
8345 {\LWR@htmlblocktag{/blockquote}}
8346
8347 \LWR@formattedenv{quotation}

8348 \end{warpHTML}
```

## 71.3 Verse

When using verse or memoir, always place a \\ after each line.

<code>\attrib</code>	The documentation for the <code>verse</code> and <code>memoir</code> packages suggest defining an <code>\attrib</code> command, which may already exist in current documents, but it will only work for print output. <code>lwarp</code> provides <code>\attribution</code> , which works for both print and HTML output. To combine the two so that <code>\attrib</code> is used for print and <code>\attribution</code> is used for HTML:
	<pre> \begin{warpHTML}   \let\attrib\attribution \end{warpHTML} </pre>
Len <code>\vleftskip</code>	These lengths are used by <code>verse</code> and <code>memoir</code> to control the left margin, and they may already be set by the user for print output. New lengths <code>\HTMLvleftskip</code> and <code>\HTMLleftmargini</code> are provided to control the margins in HTML output. These new lengths may be set by the user before any <code>verse</code> environment, and persist until they are manually changed again. One reason to change <code>\HTMLleftmargini</code> is if there is a wide <code>\flagverse</code> in use, such as the word “Chorus”, in which case the value of <code>\HTMLleftmargini</code> should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.
Len <code>\vleftmargini</code>	
Len <code>\HTMLvleftskip</code>	
Len <code>\HTMLleftmargini</code>	
⚠ spacing	Horizontal spacing relies on <i>pdftotext</i> 's ability to discern the layout ( <code>-layout</code> option) of the text in the HTML-tagged PDF output. For some settings of <code>\HTMLleftmargini</code> or <code>\HTMLleftskip</code> the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused <i>pdftotext</i> to shift everything over.
⚠ verse margin	

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

for HTML output: 8349 `\begin{warpHTML}`

Env `verse`

```

8350 \newenvironment{LWR@HTML@verse}
8351     {\let\\newLine% lwarp
8352     \list{}{\itemsep \z@
8353     \itemindent -1.5em%
8354     \listparindent\itemindent
8355     \rightmargin \leftmargin
8356     \advance\leftmargin 1.5em}%
8357     \item\relax}
8358     {\endlist}
8359
8360 \LWR@formattedenv{verse}

8361 \end{warpHTML}

```

for HTML & PRINT: 8362 `\begin{warpall}`

### 71.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\vleftskip` and `\vleftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a verse environment in HTML.

```
8363 \newlength{\HTMLvleftskip}
8364 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a verse environment in HTML.

```
8365 \newlength{\HTMLleftmargini}
8366 \setlength{\HTMLleftmargini}{4.5em}

8367 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8368 `\begin{warpall}`

Len `\VerbatimHTMLWidth` Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
8369 \newlength{\VerbatimHTMLWidth}
8370 \setlength{\VerbatimHTMLWidth}{4in}
8371 \end{warpall}
```

**for HTML output:** 8372 `\begin{warpHTML}`

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
8373 \newbool{LWR@verbtags}
8374 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```
8375 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8376
8377 \def\LWR@verb@egroup@endspan{%
8378   \LWR@orig@verb@egroup%
8379   \LWR@htmltag{/span}%
8380   \endgroup%
8381 }

8382 \xpretocmd{\verb}
8383   {%
8384     \begingroup%
8385     \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl}%
8386     \let\verb@egroup\LWR@verb@egroup@endspan%
8387   }
8388 {}
8389 {\LWR@patcherror{LaTeX}{verb}}
```

`\LWR@atbeginverbatim` [*1: style*] {*2: class*}

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of `"` improves compatibility with `xeCJK`.

```
8390 \newcommand*{\LWR@atbeginverbatim}[2][[]
8391 {%
```

Stop generating HTML paragraph tags:

```
8392 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8393 \setlength{\parskip}{0ex}%
8394 \setlength{\topsep}{0pt}%
8395 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull `\hbox` warnings.

```
8396          \hbadness=10000\relax%
```

Create a new `pre` of the given class. The tags may temporarily be turned off for internal use, such as loading the `MATHJAX` script.

```
8397 \ifbool{LWR@verbtags}{%
8398   \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8399     \ifthenelse{\equal{#1}{}}{ style=\textquotedbl#1\textquotedbl}%
8400   }%
8401   \par%
8402 }{%}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the `verse` class.

```
8403 \begingroup%
```

```
8404 \LWR@print@normalfont%
8405 \LWR@origttfamily%
8406 \LWR@print@scriptsize%
```

Since inside a `<pre>`, restore the original list processing:

```
8407 \LWR@restoreoriglists%
```

Turn off `babel-french` extra space before punctuation:

```
8408 \LWR@hook@processingtags%
```

Do not produce HTML tags for `\hspace` inside a `verse` par. Restore plain `LATEX` `\hspace` functionality:

```
8409 \let\hspace\LWR@print@hspace%
8410 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8411 \newcommand*\LWR@afterendverbatim}{%
8412 \endgroup%
8413 \par%
```

At the end of the environment, close the pre:

```
8414 \ifbool{LWR@verbtags}{%
8415   \noindent\LWR@htmltag{/pre}\par% pre
8416 }{ }%
```

Resume regular paragraph handling:

```
8417 \LWR@startpars%
8418 }
```

`\verbatiminput` {*{filename}*}

Patch `\verbatiminput` to add HTML tags:

```
8419 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8420   \ifbool{LWR@verbtags}{\LWR@forcenewpage}{ }%
8421   \LWR@atbeginverbatim{Verbatim}%
8422   \LWR@print@verbatim@input{#1}{#2}%
8423   \LWR@afterendverbatim%
8424 }
8425
8426 \LWR@formatted{verbatim@input}
```

Env `verbatim`


```
8427 \AfterEndPreamble{
8428 \LWR@traceinfo{Patching verbatim.}
8429 \AtBeginEnvironment{verbatim}{%
8430   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8431   }{%
8432   }%
8433   \LWR@forcenewpage%
8434   \LWR@atbeginverbatim{verbatim}%
8435   }%
8436 }
8437 \AfterEndEnvironment{verbatim}{%
8438   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8439   }{%
8440   }%
8441   \LWR@afterendverbatim%
8442   }%
8443 }
8444 %
8445 \AtBeginEnvironment{verbatim*}{%
8446   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8447   }{%
8448   }%
8449   \LWR@forcenewpage%
8450   \LWR@atbeginverbatim{verbatim}%
8451   }%
8452 }
8453 \AfterEndEnvironment{verbatim*}{%
8454   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

```

8455     {}%
8456     {%
8457         \LWR@afterendverbatim%
8458     }%
8459 }
8460 }

```

Env `tabbing` The `tabbing` environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```

8461 \newenvironment*{LWR@HTML@tabbing}
8462 {%
8463     \LWR@forcenewpage%
8464     \LWR@atbeginverbatim{tabbing}%
8465     \let\enskip\LWR@print@enskip%
8466     \let\quad\LWR@print@quad%
8467     \let\qquad\LWR@print@qquad%
8468     \let~\LWR@origtilde%
8469     \let\,\LWR@origcomma%
8470     \let\thinspace\LWR@print@thinspace%
8471     \let\negthinspace\LWR@print@negthinspace%
8472     \LWR@print@tabbing%
8473 }
8474 {%
8475     \endLWR@print@tabbing%
8476     \LWR@afterendverbatim%
8477 }
8478
8479 \LWR@formattedenv{tabbing}

8480 \end{warpHTML}

```

## 73 Theorems

`\newtheorem`

```
{\text} [\langle counter \rangle] — or — [\langle oldname \rangle] {\text}
```

A few minor changes are made to supply `HTML` tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `<span>` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for `HTML` output: `8481 \begin{warpHTML}`

```
\@begintheorem {\langle name \rangle} {\langle number \rangle}
```

```

8482 \renewcommand{\@begintheorem}[2]{%
8483 \LWR@forcenewpage

```

```
8484 \LWR@printpendingfootnotes% lwarp
```

```
8485 \BlockClass{theoremcontents}
8486 \trivlist
8487 \item[\InlineClass{theoremLabel}{#1\ #2\ }]\itshape
8488 }
```

```
\@opargbegintheorem {<name>} {<number>} {<oparg>}
```

L<sup>A</sup>T<sub>E</sub>X defines this, but amsthm \relaxes it, so it will not be defined if amsthm is loaded before lwarp.

```
8489 \ifundef{\@opargbegintheorem}{}{
8490 \renewcommand{\@opargbegintheorem}[3]{%
8491 \LWR@forcenewpage
8492 \BlockClass{theoremcontents}
8493 \trivlist
8494 \item[\InlineClass{theoremLabel}{#1\ #2\ (#3)\ }]\itshape
8495 }
8496 }
```

```
\@endtheorem
```

```
8497 \renewcommand*\@endtheorem}{%
8498 \endtrivlist
```

```
8499 \LWR@printpendingfootnotes% lwarp
```

```
8500 \endBlockClass% theoremcontents
8501 }
```

```
8502 \end{warpHTML}
```

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L<sup>A</sup>T<sub>E</sub>X environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The L<sup>A</sup>T<sub>E</sub>X source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```
begin{itemize}
item \mbox{}
\begin{itemize}
...
\end{itemize}
item \
```




```

\begin{itemize}
...
\end{itemize}

```

`\makeLabel`

While inside a list environment, `lwarp` nullifies a number of T<sub>E</sub>X horizontal skip and fill commands, allowing the user to define `\makeLabel` for print mode while HTML mode ignores those commands.

 **label font** When defining `\makeLabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

## 74.1 List environment

**for HTML output:** 8503 `\begin{warpHTML}`

`\LWR@printcloseList` May be locally redefined by `enumerate` or `description`.

```
8504 \newcommand*\LWR@printcloseList{\LWR@printcloseitemize}
```

`\LWR@printopenList` May be locally redefined by `enumerate` or `description`.

```
8505 \newcommand*\LWR@printopenList{%
8506   ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8507 }
```

`\@mklab` Removes PDF spacing.

```
8508 \AtBeginDocument{
8509 \def\@mklab#1{%
8510 %   \hfil %
8511   #1}
8512 \let\makeLabel\@mklab
8513 }
```

`\@donoparitem` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8514 \def\@donoparitem{%
8515   \@noparitemfalse
8516 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
8517 %                                     \unhbox\@labels
8518 %                                     \hskip \leftmargin}%
8519 %   \if@minipage\else
8520 %     \@tempkipa\lastskip
8521 %     \vskip -\lastskip
8522 %     \advance\@tempkipa\outerparskip
8523 %     \advance\@tempkipa -\parskip
8524 %     \vskip\@tempkipa
8525 %   \fi
8526 }
```

`\@item` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8527 \def\LWR@HTML@item[#1]{%
8528 \LWR@traceinfo{@item}%
8529 \if@noperitem
8530 \@donoperitem
8531 \else
8532 % \if@inlabel
8533 % \indent
8534 % \fi
8535 \ifhmode
8536 % \unskip\unskip
8537 \fi
8538 \if@newlist
8539 \if@nobreak
8540 \@nbitem
8541 \else
8542 % \addpenalty\@beginparpenalty
8543 % \addvspace\@topsep
8544 % \addvspace{-\parskip}%
8545 \fi
8546 \else
8547 % \addpenalty\@itempenalty
8548 % \addvspace\itemsep
8549 \fi
8550 \global\@inlabeltrue
8551 \fi
8552 % \everypar{%
8553 \@minipagefalse
8554 \global\@newlistfalse

8555 % \if@inlabel
8556 % \global\@inlabelfalse

8557 % {\setbox\z@\lastbox
8558 % \ifvoid\z@
8559 % \kern-\itemindent
8560 % \fi}%

8561 % \box\@labels
8562 % \penalty\z@
8563 % \fi

8564 % \if@nobreak
8565 % \@nobreakfalse
8566 % \clubpenalty \@M
8567 % \else
8568 % \clubpenalty \@clubpenalty
8569 % \everypar{%
8570 % \fi}%

8571 \if@noitemarg
8572 \@noitemargfalse
8573 \if@nmbrlist

8574 \refstepcounter\@listctr
8575 \fi
8576 \fi

8577 \makelabel{#1} % extra space
```

```

8578 % \sbox\@tempboxa{\makelabel{#1}}%
8579 % \global\setbox\@labels\hbox{%
8580 %   \unhbox\@labels
8581 %   \hskip \itemindent
8582 %   \hskip -\labelwidth
8583 %   \hskip -\labelsep
8584 %   \ifdim \wd\@tempboxa >\labelwidth
8585 %     \box\@tempboxa

8586 %   \else
8587 %     \hbox to\labelwidth {\unhbox\@tempboxa}%
8588 %   \fi
8589 %   \hskip \labelsep}%
8590 \ignorespaces%
8591 }

```

`\@nbitem`

```

8592 \def\@nbitem{%
8593 %   \@tempskipa\@outerparskip
8594 %   \advance\@tempskipa -\parskip
8595 %   \addvspace\@tempskipa
8596 }

```

`\LWR@listitem` [*⟨label⟩*]

Handles `\item` inside a list, `itemize`, or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8597 \newcommand*\LWR@listitem{%
8598   \LWR@stoppars%
8599   \LWR@startnewdepth{listitem}%
8600   \LWR@htmltag{li}%
8601   \LWR@orignewline%
8602   \LWR@startpars%
8603   \LWR@ensuredoingapar%
8604   \LWR@origitem%
8605 }

```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makelabel`. Problems are caused when these are nullified all the time.

```

8606 \newcommand*\LWR@nulllistfills{%
8607   \renewcommand*\hss{}%
8608   \renewcommand*\llap[1]{##1}%
8609   \renewcommand*\rlap[1]{##1}%
8610   \renewcommand*\hfil{}%
8611   \renewcommand*\hfilneg{}%
8612   \renewcommand*\hfill{}%
8613 }

```

Env `list` {*⟨label⟩*} {*⟨commands⟩*}

```

8614 \newcommand*\LWR@liststart{%
8615   \LWR@traceinfo{LWR@liststart}%

```

```

8616 \LWR@stoppars%
8617 \LWR@pushoneclose{list}%
8618 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8619 \LWR@startpars%
8620 \setlength{\topsep}{0pt}%
8621 \setlength{\partopsep}{0pt}%
8622 \setlength{\itemsep}{0pt}%
8623 \setlength{\parsep}{0pt}%
8624 \setlength{\leftmargin}{0pt}%
8625 \setlength{\rightmargin}{0pt}%
8626 \setlength{\listparindent}{0pt}%
8627 \setlength{\itemindent}{0pt}%
8628 \setlength{\labelsep}{1em}%
8629 \LWR@nulllistfills%
8630 }

8631 \newcommand*\LWR@listend}{%
8632 \LWR@traceinfo{LWR@listend}%
8633 \LWR@stoppars%
8634 \LWR@closeprevious{list}%
8635 \LWR@startpars%
8636 }

```

## 74.2 Itemize

`\LWR@itemizeitem` [*<label>*]

Handles `\item` inside an `itemize` or `enumerate`.

The optional argument is passed to `\LWR@origitem`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8637 \newcommand*\LWR@itemizeitem}{%
8638 \LWR@stoppars%
8639 \LWR@startnewdepth{listitem}%
8640 \LWR@htmltag{li}%
8641 \LWR@orignewline%
8642 \LWR@startpars%
8643 \LWR@ensuredoingapar%
8644 \LWR@origitem%
8645 }

```

Env `itemize` [*<options>*]

```

8646 \newcommand*\LWR@itemizestart}{%
8647 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}%
8648 \renewcommand*\LWR@printopenlist}{%
8649 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8650 }%
8651 \LetLtxMacro\item\LWR@itemizeitem%
8652 \LWR@nulllistfills%
8653 }

```

## 74.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

Env `enumerate` [*<options>*]

```

8654 \newcommand*\LWR@enumeratelist{%
8655   \renewcommand*\LWR@printcloseitemize{\LWR@printcloseitemize}%
8656   \renewcommand*\LWR@printopenitemize{\LWR@printopenitemize}%
8657   \ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8658 }%
8659 \let\ltxMacro\item\LWR@itemizeitem%
8660 \LWR@nulllistfills%
8661 }
```

## 74.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```

8662 \newcommand*\LWR@descitem}[1][1]{%
8663   \LWR@stoppars%
8664   \LWR@setlatestname{#1}%
8665   \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

8666 \begingroup%
8667 \let\LWR@orig@desc@make@label\make@label
8668 \renewcommand*\make@label}[1]{%
8669   \LWR@htmltag{dt}%
8670   \LWR@orig@desc@make@label{#1}%
8671   \LWR@htmltag{/dt}%
8672 }%
8673 \RenewDocumentCommand{\hspace}{s m}{}%
8674 \LWR@origitem[#1]%
8675 \endgroup%
8676 \LWR@orignewline%
8677 \LWR@htmltag{dd}%
8678 \LWR@startpars%
8679 }
```

Env `description` [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```

8680 \newcommand*\LWR@descriptionstart{%
8681   \renewcommand*\LWR@printcloseitemize{\LWR@printcloseitemize}
8682   \renewcommand*\LWR@printopenitemize{\LWR@printopenitemize}{dl}
8683   \let\ltxMacro\item\LWR@descitem%
8684   \LWR@nulllistfills%
8685 }
```

## 74.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8686 \newcommand*\LWR@patchlists{%
8687   \LetLtxMacro\item\LWR@listitem%
8688   \LetLtxMacro\@item\LWR@HTML@item%
8689   \renewcommand*\@trivlist{%
8690     \LWR@traceinfo{@trivlist start}%
8691     \LWR@liststart%
8692     \LWR@orig@trivlist%
8693     \LWR@traceinfo{@trivlist done}%
8694   }%
8695   \renewcommand*\@trivlist{%
8696     \LWR@traceinfo{trivlist}%
8697     \LWR@origtrivlist%
8698   }%
8699   \renewcommand*\endtrivlist{%
8700     \LWR@traceinfo{endtrivlist start}%
8701     \LWR@origendtrivlist\LWR@listend%
8702     \LWR@traceinfo{endtrivlist done}%
8703   }%
8704   \renewcommand*\itemize{%
8705     \LWR@itemizestart\LWR@origitemize%
8706   }%
8707   \renewcommand*\enumerate{%
8708     \LWR@enumeratestart\LWR@origenumerate%
8709   }%
8710   \renewcommand*\description{%
8711     \LWR@descriptionstart\LWR@origdescription%
8712   }%
8713 }

```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8714 \newcommand*\LWR@restoreoriglists{%
8715   \LWR@traceinfo{LWR@restoreoriglists}%
8716   \LetLtxMacro\item\LWR@origitem%
8717   \LetLtxMacro\@item\LWR@orig@item%
8718   \let\@trivlist\LWR@orig@trivlist%
8719   \let\trivlist\LWR@origtrivlist%
8720   \let\endtrivlist\LWR@origendtrivlist%
8721   \LetLtxMacro\itemize\LWR@origitemize%
8722   \LetLtxMacro\enditemize\LWR@endorigitemize%
8723   \LetLtxMacro\enumerate\LWR@origenumerate%
8724   \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8725   \LetLtxMacro\description\LWR@origdescription%
8726   \LetLtxMacro\enddescription\LWR@endorigdescription%
8727   \let\@mklab\LWR@orig@mklab%
8728   \let\makeLabel\LWR@origmakeLabel%
8729   \let\@donoparitem\LWR@orig@donoparitem%
8730   \let\@nbitem\LWR@orig@nbitem%
8731 }

```

8732 \end{warpHTML}

## 75 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 75.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining macros and environments:

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars
```

This includes before and after defining any macro which used \ttabbox from floatrow.

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

#### For developers:

- To automate the use of \StartDefiningTabulars and \EndDefiningTabulars, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.

⚠ Misplaced alignment  
tab character &

⚠ floatrow

⚠ tabular inside another  
environment

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
  example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of `@` and `!` is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

**⚠ \newcolumntype**

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

**font and alignment**

- `lwarp` detects each of the following, and sets HTML CSS appropriately:
  - `>{\centering\arraybackslash}`
  - `>{\raggedright\arraybackslash}`
  - `>{\raggedleft\arraybackslash}`
  - `>{\itshape}`
  - `>{\bfseries}`
  - `>{\bfseries\itshape}`

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

**Rules:****vertical rules**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an `@` or `!` column are displayed on both sides of the column.



**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

**Other:**

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
```

```
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In  $\LaTeX$ , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

⚠ `tabular` inside a `<span>`

for HTML output: `8733 \begin{warppHTML}`

## 75.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 75.2.1 `arydshln`

Emulated by the original  $\LaTeX$  non-dashed versions.

```

8734 \LetLtxMacro\hdashline\hline
8735 \LetLtxMacro\cdashline\cline
8736 \LetLtxMacro\firsthdashline\hline
8737 \LetLtxMacro\lasthdashline\hline

```

### 75.3 Token lookahead

Used by `\LWR@futurenonspacel`et to look at the next token.

`\LWR@mynexttoken`

```
8738 \newcommand\LWR@mynexttoken\relax
```

`\LWR@futurenonspacel`et `\future`et copies the next token then executes a function to analyze it.

`\LWR@futurenonspacel`et does the same, but ignores intervening spaces and paragraphs.

Based on the `booktabs` style:

```

8739 \def\LWR@futurenonspacel#1{\def\LWR@cs{#1}%
8740 \afterassignment\LWR@fnslone\let\nexttoken= }
8741
8742 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8743
8744 \def\LWR@fnsltwo{%
8745   \expandafter\ifx\LWR@cs\@sptoken%
8746     \let\next=\LWR@fnslthree%
8747   \else%
8748     \expandafter\ifx\LWR@cs\par%
8749     \let\next=\LWR@fnslthree%
8750   \else%
8751     \let\next=\nexttoken%
8752   \fi%
8753   \fi\next}
8754
8755 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

8756 \newcommand*\LWR@getmynexttoken}{%
8757   \LWR@traceinfo{\LWR@getmynexttoken}%

```



Nothing must follow this next line:

```

8758   \LWR@futurenonspacel\LWR@mynexttoken\LWR@tabledatacolumnstag
8759 }

```

### 75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `lwarp`'s new `\defaddtocounter` are used.

Bool `\LWR@startedrow`

True if should print a row tag before this column.

8760 \newbool{LWR@startedrow}  
 8761 \boolfalse{LWR@startedrow}

Bool LWR@tabularcelladded True if have added a data cell for this position.

8762 \newbool{LWR@tabularcelladded}  
 8763 \boolfalse{LWR@tabularcelladded}

Ctrl LWR@hlines Number of \hlines or \midrules above the next row.

8764 \newcounter{LWR@hlines}

Ctrl LWR@hdashedlines Number of \arydshln dashed lines above the next row.

8765 \newcounter{LWR@hdashedlines}

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

8766 \newbool{LWR@doingtbrule}  
 8767 \boolfalse{LWR@doingtbrule}

Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

8768 \newbool{LWR@doingcmidrule}  
 8769 \boolfalse{LWR@doingcmidrule}

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

8770 \newbool{LWR@tableparcell}

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

8771 \newbool{LWR@skippingmrowcell}

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

8772 \newbool{LWR@skippingmcolrowcell}

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8773 \newbool{LWR@usedmultirow}

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8774 \newbool{LWR@foundmrowcell}

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

8775 \newbool{LWR@skipatbang}

- Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.
- 8776 \newbool{LWR@emptyatbang}
- Bool LWR@intabularmetadata True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.
- 8777 \newbool{LWR@intabularmetadata}  
8778 \boolfalse{LWR@intabularmetadata}
- Bool LWR@exitingtabular When \end is found, turns off the next opening data tag.
- 8779 \newbool{LWR@exitingtabular}
- Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.
- This is used while printing the final row to generate \bottomrules.
- 8780 \newbool{LWR@tabularmutemods}
- Bool LWR@tabularfinalrow Used to set aria-hidden if adding a final row for the purpose of adding the bottom border.
- 8781 \newbool{LWR@tabularfinalrow}
- Bool LWR@validtablecol True if found a valid table column type.
- 8782 \newbool{LWR@validtablecol}
- Bool LWR@opttablecol True if found a table column optional argument.
- 8783 \newbool{LWR@opttablecol}
- Used to add a style to a table data cell:
- 8784 \newbool{LWR@tdhavecellstyle}
- Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.
- 8785 \newcounter{LWR@tabulardepth}  
8786 \setcounter{LWR@tabulardepth}{0}
- Ctr LWR@tabularpardepth Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.
- When LWR@tabularpardepth is deeper than LWR@tabulardepth then lwarp has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.
- 8787 \newcounter{LWR@tabularpardepth}  
8788 \setcounter{LWR@tabularpardepth}{0}
- 8789 \newcommand\*{\LWR@colsresult}{}%temp storage for column format results  
8790 \newcommand\*{\LWR@pposition}{}  
8791 \newcommand\*{\LWR@pleft}{}  
8792 \newcommand\*{\LWR@pright}{}

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting `@` and `!` columns.

Will contain a string such as `llrrccpc`, exactly one letter per `LATEX` table column, without `@`, `!`, `>`, `<`, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

8793 `\providecommand*\LWR@strresult{}`

8794 `\providecommand*\LWR@strresulttwo{}`

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

8795 `\newcommand*\LWR@origcolspec{}`

Ctrl `LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This includes one for each `@`, `!`, `<`, `>` column, and also one for each of the parameters of `p`, `@`, `!`, `<`, `>` columns, and three for each `D` column.

(This is not the total # of `LATEX` columns in the table.)

8796 `\newcounter{LWR@tablecolspecwidth}`

Ctrl `LWR@tablecolspecindex` While parsing the `LATEX` table column specification, starts at 1 and is incremented per token of the specification.

8797 `\newcounter{LWR@tablecolspecindex}`

Ctrl `LWR@tableLaTeXcolindex` While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

8798 `\newcounter{LWR@tableLaTeXcolindex}`

Ctrl `LWR@tabletotalLaTeXcols` While parsing a table column specification, begins at 0 and increments by 1 per `LATEX` table column. Eventually holds the final number of `LATEX` table columns in each row, not counting `@` and `!` columns. (In `HTML`, `@` and `!` cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

8799 `\newcounter{LWR@tabletotalLaTeXcols}`

Ctrl `LWR@tabletotalLaTeXcolsnext` Holds the next `LATEX` table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

8800 `\newcounter{LWR@tabletotalLaTeXcolsnext}`

`LWR@colatspec` A data array of specifications for `@` columns. The leftmost's index is `leftedge`, the others are counter values. See section 42.

`LWR@colbangspec` A data array of specifications for `!` columns. The leftmost's index is `leftedge`, the others are counter values. See section 42.

`LWR@colbeforespec` A data array of specifications for `>` columns.

`LWR@colafterspec` A data array of specifications for `<` columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra css class, as set by >.

Ctrl LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

```
8801 \newcounter{LWR@cellcolordepth}
```

### 75.4.1 Multicolumn variables

```
8802 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8803 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8804 \newcounter{LWR@mcolvertbarsl}
8805 \newcounter{LWR@mcolvertbarsr}
8806 \newcounter{LWR@mcolvertbarsldash}
8807 \newcounter{LWR@mcolvertbarsrdash}
8808 \newbool{LWR@mcolvertbaronleft}
```

### 75.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

```
8809 \newbool{LWR@starredlongtable}
8810 \boolfalse{LWR@starredlongtable}
```

### 75.4.3 Midrule variables

Ctrl LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8811 \newcounter{LWR@midrulecounter}
```

## 75.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

\LWR@instertatbangcols

```
8812 \newcommand*{\LWR@insertatbangcols}{%
8813   \ifbool{LWR@skipatbang}%
8814   {}%
8815   {%
8816     \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8817     \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8818   }%
8819 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8820 \newcommand*{\LWR@closetabledatacell}{%
8821   \booltrue{LWR@intabularmetadata}%
8822   \ifbool{LWR@exitingtabular}%
8823     {%

8824     \LWR@stoppars%
8825   }%
8826   {% not exiting tabular
8827     \ifboolexpr{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
8828     {%

8829     \LWR@stoppars%

```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

8830     \ifbool{LWR@skippingmcolrowcell}%
8831       {%
8832       {\LWR@insertatbangcols}%
8833     }%
8834     {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8835     \unskip%
8836     \ifboolexpr{%
8837       bool{LWR@tabularmutemods} or
8838       bool{LWR@skipatbang} or
8839       bool{LWR@emptyatbang}
8840     }%
8841     {%
8842     {%
8843       \LWR@getexparray{LWR@colafterspec}%
8844       {\arabic{LWR@tableLaTeXcolindex}}%
8845     }%

```

Close paragraphs:

```

8846     \LWR@stoppars%
8847     \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8848     \whileboolexpr{test {\ifnumcomp{value{LWR@cellcolordepth}}{>}{0}}}{%
8849       \LWR@htmltag{/div}\LWR@orignewline%
8850       \defaddtocounter{LWR@cellcolordepth}{-1}%
8851     }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8852     \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%

```

```

8853         \global\booltrue{LWR@tabularcelladded}%
8854         \LWR@insertatbangcols%
8855     }% not skipping mrowcell
8856 }% not exiting tabular
8857 \boolfalse{LWR@skippingmrowcell}%
8858 \boolfalse{LWR@skippingmcolrowcell}%
8859 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

8860 \def\LWR@cellHTMLcolor{}%
8861 \def\LWR@columnHTMLcolor{}%
8862 \defcounter{LWR@cellcolordepth}{0}%
8863 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```

8864 \let\LWR@origampmacro&

8865 \end{warpHTML}

```

### 75.5.1 Handling &

**for HTML output:** 8866 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

8867 \newcommand*\LWR@tabularampersand}{%
8868     \LWR@traceinfo{LWR@tabularampersand}%
8869     \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8870     {%

```

If not skipping a multirow cell, close the current data cell.

```

8871         \unskip%
8872         \LWR@closetabledatacell%

```

Move to the next column.

```

8873         \defadddtcounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

8874         \global\boolfalse{LWR@tabularcelladded}%

```

Look at the next token to decide multi or single column data tag.

```

8875         \LWR@getmynexttoken%
8876     }%

```



If not inside a tabular, performs the original action:

```
8877   {%
8878     \LWR@origampmacro%
8879   }%
8880 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

## 75.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8881 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8882   \ifboolexpr{%
8883     not bool {LWR@exitingtabular} or%
8884     bool{LWR@doingtbrule} or%
8885     bool{LWR@doingcmidrule} or%
8886     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8887     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8888     bool{LWR@startedrow}%
8889   }{%
```

Temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated.

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
8890   \ifbool{LWR@exitingtabular}{%
8891     \booltrue{LWR@tabularmutemods}%
8892   }{%
8893     \boolfalse{LWR@tabularmutemods}%
8894   }%
```

Locally reenable the table data tags until finished with the final row:

```
8895   \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8896   \whileboolexpr{%
```

```

8897     test {
8898         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8899             {\value{LWR@tabletotalLaTeXcols}}
8900     } or %
8901     (%
8902         bool{LWR@intabularmetadata} and%
8903         not bool{LWR@tabularcelladded} and%
8904         test {
8905             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8906                 {\value{LWR@tabletotalLaTeXcols}}
8907         }%
8908     )%
8909 }%
8910 {%
8911     \LWR@tabledatasinglecolumnntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

8912     \LWR@closetabledatocell%
8913     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8914     \global\boolfalse{LWR@tabularcelladded}%
8915     \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8916     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8917         {\value{LWR@tabletotalLaTeXcols}}%
8918         {\LWR@getmynexttoken}%
8919         {}%
8920     }%

```

Reenable the original `LWR@exitingtabular` to close the entire table:

```

8921     \ifbool{LWR@tabularmutemods}{%
8922         \booltrue{LWR@exitingtabular}%
8923     }{%
8924         \boolfalse{LWR@exitingtabular}%
8925     }%
8926     \boolfalse{LWR@tabularmutemods}%

8927     \boolfalse{LWR@emptyatbang}%
8928     }{% ifboolexpr
8929 }

```

## 75.7 Handling `\`

Inside `tabular`, `\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `\\*`

`\LWR@tabularendofline`

```

8930 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%

```

Finish the row:

```

8931 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8932     {\value{LWR@tabletotalLaTeXcols}}%
8933     {\LWR@tabularfinishrow}%
8934     {\LWR@closetabledatacell}%
8935 \LWR@htmltag{/tr}\LWR@orignewLine%

```

**xcolor row color support:**

```
8936 \@rowcolor%
```

**No longer inside a data cell:**

```
8937 \booltrue{LWR@intabularmetadata}%
```

**Not yet started a table row:**

```
8938 \boolfalse{LWR@startedrow}%
```

**Additional setup:**

```

8939 \defcounter{LWR@hlines}{0}%
8940 \defcounter{LWR@hdashedlines}{0}%
8941 \boolfalse{LWR@doingtbrule}%
8942 \boolfalse{LWR@doingcmidrule}%
8943 \LWR@clearmidrules%

```

```
8944 \def\LWR@rowHTMLcolor{}
```

**Start at first column:**

```
8945 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

**Have not yet added data in this column:**

```
8946 \global\boolfalse{LWR@tabularcelladded}%
```

Allow T<sub>E</sub>X to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```

8947 \LWR@stoppars%
8948 \LWR@forceemptyline%

```

Look at the next token to decide between single column data tag or a special case:

```

8949 \LWR@getmynexttoken%
8950 }

```

## 75.8 Looking ahead in the column specifications

`\LWR@columnspeclookahead`  $\{\langle offset \rangle\}$

Looks `offset` tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```

8951 \newcommand*{\LWR@colspeclookahead}[1]{%
8952   \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
8953   \addtocounter{\LWR@tempcountone}{#1}%
8954   \fullexpandarg%
8955   \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%

```

Get the contents of the first group in \LWR@strresulttwo:

```

8956   \exploregroups%
8957   \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8958   \noexploregroups%
8959 }

```

## 75.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8960 \newcommand*{\LWR@colparameter}{}
```

\LWR@parseatcolumn {<*this column type*>}

Handles @{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
8961 \newcommand*{\LWR@parseatcolumn}[1]{%
```

Move to the next token after the '@':

```

8962   \LWR@traceinfo{at column}%
8963   \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8964   \LWR@traceinfo{about to read the next token:}%
8965   \expandarg%
8966   \StrChar{\LWR@origcolspec}%
8967     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8968   \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8969   \LWR@traceinfo{have now read the next token}%
8970   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8971   {% left edge of the table:
8972     \LWR@traceinfo{at the left edge}%
8973     \LWR@setexparray{\LWR@colatspec}%
8974       {leftedge}%
8975     {\expandafter\@firstofone\LWR@colparameter}%
8976     \LWR@traceinfo{at the left edge: %
8977       \LWR@getexparray{\LWR@colatspec}{leftedge}}%
8978   }%
8979   {% not at the left edge:
8980     \LWR@traceinfo{not at the left edge}%
8981     \LWR@setexparray{\LWR@colatspec}%
8982     {\arabic{\LWR@tabletotalLaTeXcols}}%

```

```

8983         {\expandafter\@firstofone\LWR@colparameter}%
8984         \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}%
8985         : % space
8986         \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
8987     }%
8988     \let\LWR@colparameter\relax%
8989     \booltrue{LWR@validtablecol}%
8990 }

```

`\LWR@parsebangcolumn`  $\langle\textit{this column type}\rangle$  Handles  $\langle\textit{text}\rangle$  columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
8991 \newcommand*{\LWR@parsebangcolumn}[1]{%
```

Move to the next token after the '!':

```

8992     \LWR@traceinfo{bang column}%
8993     \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

8994     \LWR@traceinfo{about to read the next token:}%
8995     \expandarg%
8996     \StrChar{\LWR@origcolspec}%
8997         {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8998     \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8999     \LWR@traceinfo{have now read the next token}%
9000     \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9001     {% left edge of the table:
9002         \LWR@traceinfo{at the left edge}%
9003         \LWR@setexparray{LWR@colbangspec}%
9004             {leftedge}%
9005         {\expandafter\@firstofone\LWR@colparameter}%
9006     }%
9007     {% not at the left edge:
9008         \LWR@traceinfo{not at the left edge}%
9009         \LWR@setexparray{LWR@colbangspec}%
9010             {\arabic{LWR@tabletotalLaTeXcols}}%
9011         {\expandafter\@firstofone\LWR@colparameter}%
9012         \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9013     }%
9014     \let\LWR@colparameter\relax%
9015     \booltrue{LWR@validtablecol}%
9016 }

```

`\LWR@checkbeforeaddclass`  $\langle\textit{compared csname}\rangle$   $\langle\textit{css class to add}\rangle$

```

9017 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9018     \ifcsstrequal{LWR@tempone}{#1}%
9019     {%
9020         \LWR@setexparray{LWR@coladdclass}%
9021             {\arabic{LWR@tabletotalLaTeXcolsnext}}%
9022         { #2}% space is intentional
9023     }%

```

9024 }

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

9025 \newcommand*{\LWR@checkmathcolpar}{%
9026   \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
9027     {%
9028       \PackageError{lwarp}%
9029         {%
9030           Lwarp does not support '$' in column specifiers.\MessageBreak
9031             Specify '$' math for each cell in the column.\MessageBreak
9032             Enter 'h' for more info%
9033         }%
9034     }%
9035     For example, replace '>{c}<{c}' with 'c', and then\MessageBreak
9036       use '$cell contents$' for each cell in the column.%
9037   }%
9038 }{%
9039 }
```

`\LWR@parsebeforecolumn`  $\langle$ *this column type* $\rangle$

Handles  $\langle$ text $\rangle$  columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9040 \newcommand*{\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```
9041   \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9042   \expandarg%
9043   \StrChar{\LWR@origcolspec}%
9044     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9045   \fullexpandarg%
```

Error if using  $\langle$ math $\rangle$ , which is not supported by `lwarp`.

```
9046   \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9047   \LWR@setexparray{\LWR@colbeforespec}%
9048     {\arabic{\LWR@tabletotalLaTeXcolsnxt}}%
9049     {\expandafter\@firstofone\LWR@colparameter}%
9050 %
9051   \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%
```

If detect  $\langle$ centering $\langle$ arraybackslash $\rangle$  or related, add a css class.

```

9052   \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
9053   \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
9054   \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
9055   \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
```

```

9056 \LWR@checkbeforeaddclass{LWR@detect@bfseries}{tdbfseries}
9057 \LWR@checkbeforeaddclass{LWR@detect@bfit}{tdbfit}

9058 \let\LWR@colparameter\relax%
9059 \booltrue{LWR@validtablecol}%
9060 }

```

`\LWR@parseaftercolumn` {<*this column type*>}

Handles <{text}> columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9061 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
9062 \defaddtocomputer{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9063 \expandarg%
9064 \StrChar{\LWR@origcolspec}%
9065   {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
9066 \fullexpandarg%

```

Error if using >{ $\$$ }, which is not supported by `lwarp`.

```
9067 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9068 \LWR@setexparray{LWR@colafterspec}%
9069   {\arabic{LWR@tabletotalLaTeXcols}}%
9070   {\expandafter\@firstofone\LWR@colparameter}%
9071 \let\LWR@colparameter\relax%
9072 \booltrue{LWR@validtablecol}%
9073 }

```

`\LWR@parsebarcolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9074 \newcommand*{\LWR@parsebarcolumn}[1]{%
9075   \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

9076 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9077 {% left edge of the table:
9078   \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9079   \ifdefstring{\LWR@tempone}{tvertbarl}%
9080     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9081     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
9082 }%

```

```

9083   {% not at the left edge:
9084     \edef\LWR@tempone{%
9085       \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9086     }%
9087     \ifdefstring{\LWR@tempone}{tvertbarr}%
9088     {%
9089       \LWR@setexparray{LWR@colbarspec}%
9090         {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
9091     }%
9092     {%
9093       \LWR@setexparray{LWR@colbarspec}%
9094         {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
9095     }%
9096   }%
9097   \booltrue{LWR@validtablecol}%
9098 }

```

`\LWR@parsecoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9099 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9100   \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9101   \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9102   {% left edge of the table:
9103     \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9104     \ifdefstring{\LWR@tempone}{tvertbarldash}%
9105     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9106     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
9107   }%
9108   {% not at the left edge:
9109     \edef\LWR@tempone{%
9110       \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9111     }%
9112     \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9113     {\LWR@setexparray{LWR@colbarspec}%
9114       {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9115     {\LWR@setexparray{LWR@colbarspec}%
9116       {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9117   }%
9118   \booltrue{LWR@validtablecol}%
9119 }

```

`\LWR@parsesemicoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@columntype@<char>`, defined by `\LWR@modifycolumntype`.

```

9120 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%

```



Treat ; as a : column:

```
9121 \LWR@parsecoloncolumn{%
9122 }
```

## 75.10 Parsing common column types

`\LWR@parsenormalcolumn`  $\{ \langle \textit{this column type} \rangle \}$

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumn` type definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a lateximage.

The arguments to the column type are absorbed by `\LWR@column` type  $\langle \text{char} \rangle$ , defined by `\LWR@modifycolumn` type.

```
9123 \newcommand*{\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9124 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9125 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

9126 \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

9127 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9128 \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9129 \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9130 \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9131 \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9132 \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9133 \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{ }%
9134 \booltrue{LWR@validtablecol}%
9135 }
9136
9137 \newcommand*{\LWR@print@LWR@parsenormalcolumn}[1]{ }
9138
9139 \LWR@formatted{LWR@parsenormalcolumn}
```

## 75.11 Parsing ‘w’ columns

W and w columns are handled via array with `\HTMLnewcolumn` type.

## 75.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn`  $\{ \langle \textit{this column type} \rangle \}$  Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by `\LWR@column` type  $\langle \text{char} \rangle$ , defined by `\LWR@modifycolumn` type.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9140 \newcommand*{\LWR@parsestarcolumn}[1]{ }
```

Table 13: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
l	par	mid	bot	r
	par	mid		
	par			

### 75.13 Expanding the star column specifications

`\LWR@expandpreamble`  $\{\langle tabular preamble \rangle\}$

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```

\edef\destination{\the\@temptokena}

9141 \newcommand*\LWR@expandpreamble[1]{%
9142   \edef\@tempa{\@temptokena=#1}%
9143   \@tempa%
9144   \@tempswatruer%
9145   \@whilesw\if@tempswa\fi{%
9146     \@tempswafalse\the\NC@list%
9147   }%
9148 }
```

### 75.14 Parsing the column specifications


 **tabular baselines** HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

`\LWR@modifycolumnntype`  $\{\langle 1: column type letter \rangle\} \{\langle 2: number args to ignore \rangle\} \{\langle 3: csname of the cell action \rangle\} \{\langle 4: csname of the multicolumn print type action \rangle\} \{\langle 5: csname of the multicolumn print data action \rangle\}$

Add HTML functionality to an existing print version column type.

```

9149 \newcommand*\LWR@modifycolumnntype[5]{%
9150   \LWR@traceinfo{\LWR@modifycolumnntype !#1!#2!#3!#4!#5!}%
9151   \LWR@traceinfo{\LWR@modifycolumnntype #1}%
9152   \edef\@tempa{%
9153     \noexpand\csdef{\LWR@columnntype@#1}{%
9154       \noexpand\@nameuse{#3}{#1}%
9155       \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%

```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<column type>`.

---

- l, r, c:** Converted to table cells without paragraph tags.  
 Uses css `vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 13,  $\LaTeX$  places the top line of a parbox aligned with the rest of the text line, so css `vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\LaTeX$  baselines.
- m:** With paragraph tags, css `vertical-align:middle`.
- b:** With paragraph tags, css `vertical-align: top` so that the bottom of the text is closest to the middle of the text line.
- w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
- P, M, B:** Horizontally-centered versions.
- S:** Treated as 'c'. Ignores optional argument. From the `siunitx` package.
- D:** Treated as 'c'. From the `dcolumn` package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn type:** Expands to its replacement text.
- \HTMLnewcolumn type:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

---

**<coltype>**: The single-letter column type, such as c or X.

**Created by \LWR@modifycolumn****type**: Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@column****type@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@column****type@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@column****type@mcdata@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumn****type**: From array.

**\NC@find@<coltype>**: Internally used to parse the column specifier.

**\NC@rewrite@<coltype>**: Stores the print-mode replacement text.

**Created by \HTMLnewcolumn****type**: From lwarp.

**\LWR@print@NC@rewrite@<coltype>**: Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>**: Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>**: Redefined to use the print or HTML version.

---

```

9156         }%
9157         \noexpand\csdef{LWR@column
```

```

9158             \noexpand\@nameuse{#4}{#1}%
9159         }%
9160         \noexpand\csdef{LWR@column
```

```

9161             \noexpand\@nameuse{#5}{#2}%
9162         }%
9163     }%
9164     \@tempa%
9165     \LWR@traceinfo{LWR@modifycolumn
```

```

9166 }

9167 \LWR@modifycolumn
```

```

9168     {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9169
9170 \LWR@modifycolumn
```

```

9171     {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9172
9173 \LWR@modifycolumn
```

```

9174     {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9175 \LWR@modifycolumn
```

```

9176     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9177
9178 \LWR@modifycolumn
```

```

9179     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9180
9181 \LWR@modifycolumn
```

```

9182     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9183
9184 \LWR@modifycolumn
```

```

9185     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9186
9187 \LWR@modifycolumn
```

```

9188     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9189
9190 \LWR@modifycolumn
```

```

9191     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9192
9193 \LWR@modifycolumn
```

```

9194     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9195
9196 \LWR@modifycolumn
```

```

9197     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9198
9199 \LWR@modifycolumn
```

```

9200     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9201
9202 \LWR@modifycolumn
```

```

9203     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9204
9205 \LWR@modifycolumn
```

```

9206     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9207
9208 \LWR@modifycolumn
```

```

9209     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9210
9211 \LWR@modifycolumn
```

```

9212     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9213
9214 \LWR@modifycolumn
```

```

9215     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9216
9217 \LWR@modifycolumn
```

```

9218     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9219
9220 \LWR@modifycolumn
```

```

9221     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9222
9223 \LWR@modifycolumn
```

```

9224     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9225
9226 \LWR@modifycolumn
```

```

9227     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9228
9229 \LWR@modifycolumn
```

```

9230     {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9231
9232 \LWR@modifycolumn
```

```

9182   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9183
9184 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9185   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9186
9187 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9188   {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9189
9190 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9191   {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9192
9193 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9194   {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9195 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9196   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9197
9198 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9199   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9200
9201 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9202   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

```

A star column:

```

9203 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9204   {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype` {<col type>} [<num args>] [<optional arg>] {<replacement text>}

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
  {\NC@find <replacement text>}
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9205 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{%
9206   \IfValueTF{#3}
9207   {
9208     \expandafter\newcommand\expandafter*%
9209       \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9210     \LWR@formatted{NC@rewrite@#1}%
9211   }
9212   {
9213     \expandafter\newcommand\expandafter*%
9214       \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9215     \LWR@formatted{NC@rewrite@#1}%
9216   }
9217 }

9218 \end{warpHTML}

```

**for PRINT output:** 9219 \begin{warpprint}

```
9220 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{}

```

```
9221 \end{warpprint}

```

**for HTML output:** 9222 \begin{warppHTML}

```
\LWR@parsetablecols {<colspecs>}

```

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one `LATEX` column per entry. The final number of `LATEX` columns in each row is stored in `LWR@tabletotalLaTeXcols`, which is the number of `&` and `\` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```
9223 \newcommand*\LWR@parsetablecols[1]{%
9224   \LWR@traceinfo{\LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9225   \renewcommand*\LWR@origcolspec{#1}%

```

Remove spaces:

```
9226   \expandarg%
9227   \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%

```

Expand any star columns:

```
9228   \LWR@expandpreamble{\LWR@origcolspec}%
9229   \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, `LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
9230   \defcounter{LWR@tabletotalLaTeXcols}{0}%
9231   \defcounter{LWR@tabletotalLaTeXcolsnxt}{1}%
9232   \LWR@setexparray{LWR@colatspec}{leftedge}{}%
9233   \LWR@setexparray{LWR@colatspec}{1}{}%
9234   \LWR@setexparray{LWR@colatspec}{2}{}%
9235   \LWR@setexparray{LWR@colatspec}{3}{}%
9236   \LWR@setexparray{LWR@colbangspec}{leftedge}{}%
9237   \LWR@setexparray{LWR@colbangspec}{1}{}%
9238   \LWR@setexparray{LWR@colbangspec}{2}{}%
9239   \LWR@setexparray{LWR@colbangspec}{3}{}%
9240   \LWR@setexparray{LWR@colbeforespec}{1}{}%
9241   \LWR@setexparray{LWR@colbeforespec}{2}{}%
9242   \LWR@setexparray{LWR@colbeforespec}{3}{}%
9243   \LWR@setexparray{LWR@colafterspec}{1}{}%
9244   \LWR@setexparray{LWR@colafterspec}{2}{}%
9245   \LWR@setexparray{LWR@colafterspec}{3}{}%
9246   \LWR@setexparray{LWR@colbarspec}{leftedge}{}%
9247   \LWR@setexparray{LWR@colbarspec}{1}{}%
9248   \LWR@setexparray{LWR@colbarspec}{2}{}%

```

```

9249 \LWR@setexparray{LWR@colbarspec}{3}{}%
9250 \LWR@setexparray{LWR@coladdclass}{1}{}%
9251 \LWR@setexparray{LWR@coladdclass}{2}{}%
9252 \LWR@setexparray{LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```
9253 \defcounter{LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9254 \expandarg%
9255 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9256 \fullexpandarg%
9257 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9258 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
9259 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

9260 \whileboolexpr{%
9261     not test{%
9262         \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
9263             {\value{LWR@tablecolspecwidth}}%
9264     }%
9265 }%
9266 {%

```

Place the next single-character column type into `\LWR@strresult`:

```

9267 \expandarg%
9268 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
9269 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
9270 \fullexpandarg%

```

Not yet found a valid column type:

```
9271 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
9272 \IfStrEq{\LWR@strresult}[]{\booltrue{LWR@opttablecol}}{%}
```

Throw away anything found inside the optional argument:

```

9273 \ifbool{LWR@opttablecol}%
9274 {}% inside an optional argument
9275 {% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

9276 \ifcsdef{LWR@columnntype@\LWR@strresult}%
9277     {\csuse{LWR@columnntype@\LWR@strresult}}%
9278     {}%

```

If an unknown column type, use l:

```

9279     \ifbool{LWR@validtablecol}{ }{%
9280         \LWR@traceinfo{invalid column type: \LWR@strresult}%
9281         \LWR@parsenormalcolumn{l}%
9282     }%
9283 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

9284     \IfStrEq{\LWR@strresult}{ ] }{\boolfalse{LWR@opttablecol}}{%

```

Move to the next character:

```

9285     \defaddtocounter{LWR@tablecolspecindex}{1}%
9286     }% whiledo
9287 }%

```

## 75.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```

9288 \ifundefined{rownum}{\newcount\rownum}{}

```

`\@rowcolors` Emulated in case `xcolor` is not used.

```

9289 \newcommand*{\@rowcolors}{}

```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```

9290 \newcommand*{\@rowc@lors}{}

```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```

9291 \newcommand*{\LWR@xcolorrowHTMLcolor}{}

```

`\LWR@columnHTMLcolor` `HTML`style code for the column color.

```

9292 \def\LWR@columnHTMLcolor{}

```

`\LWR@rowHTMLcolor` `HTML`style code for the row color.

```

9293 \def\LWR@rowHTMLcolor{}

```



`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
9294 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
9295 \newcommand*\LWR@ruleHTMLcolor{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9296 \newcommand*\rowcolor{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
9297 \newcommand{\arrayrulecolor}[2][named]{}
```

```
9298 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
9299 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
9300 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 75.16 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9301 \newcommand*\LWR@maybenewtablerow
```

```
9302 {%
```

```
9303   \ifbool{LWR@startedrow}%
```

```
9304     {}% started the row
```

```
9305     {}% not started the row
```

Pre-compute the `aria-hidden` attribute, used to hide from screen readers the final row if it is only used to create the bottom border:

```
9306     \ifbool{LWR@tabularfinalrow}%
```

```
9307       {%
```

```
9308         \renewcommand*\LWR@tempone%
```

```
9309           { aria-hidden=\textquotedbl{}true\textquotedbl}%
```

```
9310         }%
```

```
9311       }%
```

```
9312     \renewcommand*\LWR@tempone{}%
```

```
9313   }%
```

Start a new row if doing `\hline`:

```

9314     \ifbool{expr}%
9315         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9316         test{\ifnumcomp{\value{LWR@dashedlines}}{>}{0}}%
9317     }%
9318     {%
9319         \LWR@htmltag{%
9320             tr %
9321             class=\textquotedbl{}hline\textquotedbl%
9322             \LWR@tempone% aria-hidden
9323         }%
9324         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9325         \booltrue{LWR@startedrow}%
9326         \booltrue{LWR@intabularmetadata}%
9327     }%

```

If not doing `\hline`, start a row if doing a top or bottom rule:

```

9328     {% not doing hline
9329         \ifbool{LWR@doingtbrule}%
9330     {%
9331         \ifdefvoid{\LWR@ruleHTMLcolor}{%
9332             \LWR@htmltag{%
9333                 tr %
9334                 class=\textquotedbl{}tbrule\textquotedbl%
9335                 \LWR@tempone% aria-hidden
9336             }%
9337         }{%
9338             \LWR@htmltag{%
9339                 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9340                 style=\textquotedbl{}border-top: 1px solid % space
9341                 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9342                 \LWR@tempone% aria-hidden
9343             }%
9344         }%
9345         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9346         \booltrue{LWR@startedrow}%
9347         \booltrue{LWR@intabularmetadata}%
9348     }%
9349     {%

```

If not the final row, start a new row:

```

9350         \ifbool{LWR@tabularfinalrow}%
9351     }%
9352     {%
9353         \LWR@htmltag{tr}\LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9354             \booltrue{LWR@startedrow}%
9355             \booltrue{LWR@intabularmetadata}%
9356         }%
9357     }%
9358 }% end of not doing hline
9359 }% end of not started the row
9360 }
```

## 75.17 Printing vertical bar tags

`\LWR@printbartag` {<*index*>}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9361 \newcommand*{\LWR@printbartag}[1]{%
9362     \LWR@traceinfo{LWR@printbartag !#1!}%
9363     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9364     {}% muting or empty
9365     {% not muting
9366         \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{#1}}%
9367         \ifdefempty{\LWR@tempone}{\LWR@tempone}%
9368     }% not muting
9369     \LWR@traceinfo{LWR@printbartag done}%
9370 }
```

## 75.18 Printing @ or ! tags

`\LWR@printatbang` {<*at — or — bang*>} {<*index*>}

```

9371 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9372     \xdef\LWR@atbangspec{\LWR@getexpparray{LWR@col#1spec}{#2}}%
9373     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%
```

Only generate if is not empty;

```

9374     \ifdefempty{\LWR@atbangspec}%
9375     {}%
9376     {% not empty
9377         \LWR@htmltag{%
9378             td class=\textquotedbl{}td#1%
9379             \LWR@subaddcmidruletrim{}{}%
9380             \LWR@printbartag{#2}%
9381             \textquotedbl{}%
9382             \LWR@tdstartstyles%
9383             \LWR@addcmidrulewidth%
9384             \LWR@addcdashline%
9385             \LWR@addtabularrulecolors%
9386             \LWR@tdendstyles%
9387         }%
```

Create an empty cell if muting for the `\bottomrule`:

```

9388     \ifbool{expr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}}%
9389         {}%
9390         {\LWR@atbangspec}%
9391 %
9392     \LWR@htmltag{/td}\LWR@orignewline%
9393     \global\booltrue{LWR@tabularcelladded}%
9394     }% not empty
9395 }%

```

`\LWR@addleftmostbartag`

```

9396 \newcommand*{\LWR@addleftmostbartag}{%
9397     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=} {1} {%
9398         \LWR@printbartag{leftedge}%
9399     }%
9400 }

```

`\LWR@tabularleftedge`

```

9401 \newcommand*{\LWR@tabularleftedge}{%
9402     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=} {1} {%
9403         {%
9404             \LWR@printatbang{at}{leftedge}%
9405             \LWR@printatbang{bang}{leftedge}%
9406         }% left edge
9407     }% not left edge
9408 }

```

## 75.19 Cell opening tag

`\LWR@thiscolspec` Temporary storage.

```

9409 \newcommand*{\LWR@thiscolspec}{}

```

`\LWR@tabledatasinglecolumntag` Print a table data opening tag with style for alignment and color.

```

9410 \newcommand*{\LWR@tabledatasinglecolumntag}%
9411 {%
9412     \LWR@traceinfo{LWR@tabledatasinglecolumntag}%
9413     \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

9414     \ifbool{LWR@intabularmetadata}%
9415     {}%

```

If have found the end of tabular command, do not create the next data cell:

```

9416     \ifbool{LWR@exitingtabular}{}%
9417     {}% not exiting tabular

```

Print the @ and ! contents before first column:

```

9418         \LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```
9419         \xdef\LWR@strresult{%
9420         \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9421         }%
```

Print the start of a new table data cell:

```
9422         \LWR@traceinfo{LWR@tabledatasinglecolumn: about to print td tag}%
9423         \LWR@htmltag{%
9424         td class=\textquotedbl{}td%
```

Append this column's spec:

```
9425         \LWR@strresult%
```

If this column has a cmidrule, add "rule" to the end of the HTML class tag. Also add vertical bar tags.

```
9426         \LWR@addcmidruletrim%
9427         \LWR@addleftmostbartag%
9428         \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9429         \LWR@getexparray{LWR@coladdclass}%
9430         {\arabic{LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9431         \textquotedbl{}%
```

Add styles for rules, alignment:

```
9432         \LWR@tdstartstyles%
9433         \LWR@addcmidrulewidth%
9434         \LWR@addcdashline%

9435         \xdef\LWR@thiscolspec{%
9436         \LWR@getexparray{LWR@tablecolspec}%
9437         {\arabic{LWR@tableLaTeXcolindex}}%
9438         }%
9439         \LWR@addformatwpalignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9440         \LWR@addtabulararrowcolor%
9441         \LWR@addtabularrulecolors%

9442         \LWR@tdendstyles%
9443         }% HTML td
9444         \LWR@traceinfo{LWR@tabledatasinglecolumn: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9445         \ifboolexpr{%
9446         test{ \ifdefstring{\LWR@strresult}{p} } or
```

```

9447         test{ \ifdefstring{\LWR@strresult}{m} } or
9448         test{ \ifdefstring{\LWR@strresult}{b} }
9449     }%
9450     {% allow pars
9451     \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: about to LWR@startpars}%
9452         \booltrue{\LWR@tableparcell}%
9453         \LWR@startpars%
9454     \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: done with LWR@startpars}%
9455     }% allow pars
9456     }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9457     \ifboolexpr{\bool{\LWR@tabularmutemods} or \bool{\LWR@emptyatbang}}%
9458     {}%
9459     {%
9460     \LWR@getexparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
9461     }%
9462     \boolfalse{\LWR@intabularmetadata}%
9463     }% not exiting tabular
9464     }{}% in tabular metadata
9465     \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: done}%
9466 }%

```

## 75.20 Midrules

**LWR@midrules** LWR@midrules is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

**LWR@trimlrules** LWR@trimlrules is a data array (section 42) of columns containing l if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 42) of columns each containing a Y if an `arydshln` package "cdashed line" should be created for this column.

Len \LWR@heavyrulewidth The default width of the rule.

```

9467 \newlength{\LWR@heavyrulewidth}
9468 \setlength{\LWR@heavyrulewidth}{.08em}

```

Len \LWR@lightrulewidth The default width of the rule.

```

9469 \newlength{\LWR@lightrulewidth}
9470 \setlength{\LWR@lightrulewidth}{.05em}

```

Len \LWR@cmidrulewidth The default width of the rule.

```

9471 \newlength{\LWR@cmidrulewidth}
9472 \setlength{\LWR@cmidrulewidth}{.03em}

```

Len \LWR@thiscmidrulewidth The width of the next rule, defaulting to \LWR@cmidrulewidth.

If not \LWR@cmidrulewidth, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
9473 \newlength{\LWR@thiscmidrulewidth}
9474 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
9475 \newcommand*{\LWR@clearmidrules}
9476 {%
9477   \defcounter{LWR@midrulecounter}{1}%
9478   \whileboolexpr{%
9479     not test{%
9480       \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9481         {\value{LWR@tabletotalLaTeXcols}}%
9482     }%
9483   }%
9484   {%
9485     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9486     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9487     \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{%
9488     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{%
9489     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9490     \defaddtocounter{LWR@midrulecounter}{1}%
9491   }%
9492 }
```

`\LWR@subcmidrule`  $\langle width \rangle \langle trim \rangle \langle leftcolumn \rangle \langle rightcolumn \rangle$

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9493 \newcommand*{\LWR@subcmidrule}[4]{%
9494   \defcounter{LWR@midrulecounter}{#3}%
9495   \whileboolexpr{%
9496     not test {%
9497       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9498     }%
9499   }%
9500   {%
9501     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9502     \defaddtocounter{LWR@midrulecounter}{1}%
9503   }% whiledo
9504   \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{%
9505   \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{%
9506   \booltrue{LWR@doingcmidrule}%
9507 }
```

`\LWR@docmidrule`  $[\langle width \rangle] (\langle trim \rangle) \langle leftcolumn-rightcolumn \rangle$

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```

9508 \NewDocumentCommand{\LWR@docmidrule}
9509   {O{\LWR@cmidrulewidth} D()} >{\SplitArgument{1}{-}}m}
9510   {\LWR@subcmidrule{#1}{#2}#3}

```

`\LWR@subcdashline`  $\{\langle leftcolumn \rangle\} \{\langle rightcolumn \rangle\}$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```

9511 \newcommand*{\LWR@subcdashline}[2]{%
9512   \defcounter{\LWR@midrulecounter}{#1}%
9513   \whileboolexpr{%
9514     not test {%
9515       \ifnumcomp{\value{\LWR@midrulecounter}}{>}{#2}%
9516     }%
9517   }%
9518   {%
9519     \LWR@setexparray{\LWR@cdashlines}{\arabic{\LWR@midrulecounter}}{Y}%
9520     \defaddtocounter{\LWR@midrulecounter}{1}%
9521   }% \whiledo
9522   \booltrue{\LWR@doingcmidrule}%
9523 }

```

`\LWR@docdashline`  $\{\langle leftcolumn-rightcolumn \rangle\}$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

9524 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
9525 {%
9526   \LWR@subcdashline#1%
9527 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

9528 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

9529 \newcommand*{\LWR@tdaddstyle}{%
9530   \ifbool{\LWR@tdhavecellstyle}%
9531     {; }%
9532     { style=\textquotedbl}%
9533   \booltrue{\LWR@tdhavecellstyle}%
9534 }

```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9535 \newcommand*{\LWR@tdendstyles}{%
9536   \ifbool{\LWR@tdhavecellstyle}%
9537     {%
9538       \textquotedbl%
9539       \boolfalse{\LWR@tdhavecellstyle}%
9540     }{%
9541 }

```



`\LWR@subaddcmidruletrim`  $\{\langle lefttrim \rangle\} \{\langle righttrim \rangle\}$  Adds a `\cmidrule` with optional trim.

```

9542 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9543     \setlength{\LWR@templengthone}{%
9544         \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
9545     }%
9546     \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9547     {%

```

Print the class with left and right trim letters appended:

```

9548         \LWR@origtilde tdrule#1#2%

```

Remember the width of the rule:

```

9549         \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9550     }%
9551     {%
9552         \setlength{\LWR@thiscmidrulewidth}{0pt}%
9553     }%
9554 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9555 \newcommand*{\LWR@addcmidruletrim}{%
9556     \LWR@subaddcmidruletrim%
9557     {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9558     {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9559 }

```

`\LWR@addrulewidth`  $\{\langle thiswidth \rangle\} \{\langle defaultwidth \rangle\}$

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9560 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9561     \ifboolexpr{%
9562         test{\ifdimcomp{#1}{=}{0pt}} or
9563         (
9564             ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
9565             and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9566         )
9567     }%
9568     {}% default width and color
9569     {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

9570         \LWR@forceminwidth{#1}%

```

Begin adding another style:

```
9571 \LWR@tdaddstyle%
```

The style itself:

```
9572 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9573 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9574 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9575 {\LWR@origpound{A0A0A0}}%
9576 {% lightrule or heavier
9577 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9578 {\LWR@origpound{808080}}%
9579 {black}}%
9580 }% lightrule or heavier
9581 }{%
9582 \LWR@origpound\LWR@ruleHTMLcolor%
9583 }%
9584 }% custom width and/or color
9585 }
```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9586 \newcommand{\LWR@addcmidrulewidth}{%
9587 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9588 }
```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9589 \newcommand{\LWR@addcdashline}{%
9590 \edef\LWR@tempone{%
9591 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9592 }%
9593 \ifdefstring{\LWR@tempone}{Y}{%
9594 \LWR@tdaddstyle%
9595 border-top: 1pt dashed %
9596 \ifdefvoid{\LWR@ruleHTMLcolor}%
9597 {black}%
9598 {\LWR@origpound\LWR@ruleHTMLcolor}%
9599 }{%
9600 }
```

`\LWR@WPcell` `{<text-align>}{<vertical-align>}`

```
9601 \newcommand*{\LWR@WPcell}[2]{%
9602 \LWR@tdaddstyle%
9603 \LWR@print@inbox{text-align:#1}; \LWR@print@inbox{vertical-align:#2}%
9604 }
```

`\LWR@addformatwpaignment` `{<colspec>}`

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9605 \newcommand*{\LWR@addformatwpalignment}[1]{%
9606     \ifbool{FormatWP}{%
9607         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
9608         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
9609         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
9610         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
9611         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
9612         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
9613     }{%
9614 }

```

## 75.21 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9615 \newcommand*{\LWR@addtabularrowcolor}{%
9616     \ifbool{LWR@tabularmutemods}{%
9617         \ifdefvoid{\LWR@rowHTMLcolor}{%
9618             \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9619                 {% xcolor row color
9620                     \LWR@tdaddstyle%
9621                     background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9622                 }%
9623             }%
9624             {% explicit row color
9625                 \LWR@tdaddstyle%
9626                 background:\LWR@origpound\LWR@rowHTMLcolor%
9627             }%
9628         }%
9629 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

9630 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

9631     \ifboolexpr{%
9632         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9633         test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9634         bool{LWR@doingtbrule}%
9635     }{%

```

If there is a no custom color:

```

9636         \ifdefvoid{\LWR@ruleHTMLcolor}%
9637         {%
9638             \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9639             {%
9640                 \LWR@tdaddstyle%
9641                 border-top: 4px double%
9642             }% else

```

```

9643     \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9644     {%
9645         \LWR@tdaddstyle%
9646         border-top: 2px dashed%
9647     }{% else
9648     \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9649     {%
9650         \LWR@tdaddstyle%
9651         border-top: 1px dashed%
9652     }}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9653     }%

```

If there is a custom color:

```

9654     {%
9655     \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9656     {%
9657         \LWR@tdaddstyle%
9658         border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9659     }{% else
9660     \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9661     {%
9662         \LWR@tdaddstyle%
9663         border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9664     }{% else
9665     \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9666     {%
9667         \LWR@tdaddstyle%
9668         border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9669     }{% else
9670         \LWR@tdaddstyle%
9671         border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9672     }}}%
9673     }%
9674     }{%
9675 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9676 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9677     \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9678     \ifbool{LWR@tabularmutemods}{}{%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9679     \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```
9680         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9681         \ifdefstring{\LWR@tempone}{tvertbarl}{%
9682             \LWR@tdaddstyle%
9683             border-left: 1px solid % space
9684             \LWR@vertruleHTMLcolor%
9685         }{%
9686         \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9687             \LWR@tdaddstyle%
9688             border-left: 4px double % space
9689             \LWR@vertruleHTMLcolor%
9690         }{%
9691         \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9692             \LWR@tdaddstyle%
9693             border-left: 1px dashed % space
9694             \LWR@vertruleHTMLcolor%
9695         }{%
9696         \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9697             \LWR@tdaddstyle%
9698             border-left: 2px dashed % space
9699             \LWR@vertruleHTMLcolor%
9700         }{%
9701         }{%
```

Possibly add a right vertical rule for this cell:

```
9702         \edef\LWR@tempone{%
9703         \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9704         }%
9705         \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9706             \LWR@tdaddstyle%
9707             border-right: 1px solid \LWR@vertruleHTMLcolor%
9708         }{%
9709         \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9710             \LWR@tdaddstyle%
9711             border-right: 4px double \LWR@vertruleHTMLcolor%
9712         }{%
9713         \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9714             \LWR@tdaddstyle%
9715             border-right: 1px dashed \LWR@vertruleHTMLcolor%
9716         }{%
9717         \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9718             \LWR@tdaddstyle%
9719             border-right: 2px dashed \LWR@vertruleHTMLcolor%
9720         }{%
9721         }%
9722 }
```

```
\LWR@subaddtabularcellcolor {<html color>}
```

```
9723 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9724     \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
```

```

9725     style=\textquotedbl{}%
9726     background:\LWR@origpound{ }#1 %
9727     \textquotedbl\ %
9728     }% space
9729     \defaddtocounter{LWR@cellcolordepth}{1}%
9730 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9731 \newcommand*{\LWR@addtabularcellcolor}{%
9732   \ifdefvoid{\LWR@cellHTMLcolor}%
9733   {%
9734     \ifdefvoid{\LWR@rowHTMLcolor}%
9735     {%
9736       \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9737       {%
9738         \ifdefvoid{\LWR@columnHTMLcolor}%
9739         {%
9740           {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9741         }%
9742         {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9743       }%
9744       {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9745     }%
9746     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9747 }

```

## 75.22 Multicolumns

### 75.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal` {<*col type*>}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9748 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9749   #1%
9750   \boolfalse{LWR@mcolvertbaronleft}%
9751 }

```

`\LWR@printmccoltype@ignore` {<*col type*>}

This type does not print a multi-column data cell.

```

9752 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar` {<*col type*>}

Adds a left or right vertical bar.

```

9753 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9754   \ifbool{LWR@mcolvertbaronleft}%
9755     {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9756     {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9757 }

```

`\LWR@printmccoltype@colon` {<*col type*>}

Adds a left or right vertical bar.

```
9758 \newcommand*{\LWR@printmccoltype@colon}[1]{%
9759   \ifbool{\LWR@mcolvertbaronleft}%
9760     {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
9761     {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
9762 }
```

`\LWR@printmccoltype@semicolon` {<*col type*>}

Adds a left or right vertical bar.

```
9763 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

`\LWR@printmccoltype` {<*colspec*>} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@columnntype@mctype@<type>` is defined by `\LWR@modifycolumnntype`.

```
9764 \newcommand*{\LWR@printmccoltype}[1]{%
9765   \LWR@traceinfo{\lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9766   \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9767   \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9768   \ifcndef{\LWR@columnntype@mctype@\LWR@strresult}%
9769     {\csuse{\LWR@columnntype@mctype@\LWR@strresult}}%
9770     {\boolfalse{\LWR@mcolvertbaronleft}}%
9771   \LWR@traceinfo{\lwr@printmccoltype done}%
9772 }
```

`\LWR@printmccoldata@other` {<*num args to skip*>} {<*entire colspec*>}

For @, !, >, <, print the next token without paragraph tags:

```
9773 \newcommand*{\LWR@printmccoldata@other}[2]{%
9774   \defaddtocounter{\LWR@tablemulticolspos}{1}%
9775   \StrChar{#2}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
9776   \LWR@strresult%
```

A valid column data type was found:

```
9777   \booltrue{\LWR@validtablecol}%
9778 }
```

`\LWR@printmccoldata@skip`  $\{\langle num\ args\ to\ skip\rangle\}$   $\{\langle entire\ colspec\rangle\}$

Nothing to print for this column type.

```
9779 \newcommand*\LWR@printmccoldata@skip[2]{%
9780   \defaddtocounter{LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
9781   \booltrue{LWR@validtablecol}%
9782 }
```

For `\LWR@printmccoldata@. . .`,  $\{\langle num\ args\ to\ skip\rangle\}$  is provided by `\LWR@column@mcdata@<coltype>` when it was defined by `\LWR@modifycolumn@type`. `\entire colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@column@mcdata@<coltype>`.

`\LWR@printmccoldata@normal`  $\{\langle num\ args\ to\ skip\rangle\}$   $\{\langle entire\ colspec\rangle\}$

```
9783 \newcommand*\LWR@printmccoldata@normal[2]{%
9784   \LWR@multicoltext%
9785   \defaddtocounter{LWR@tablemulticolspos}{#1}%
9786 }
```

`\LWR@printmccoldata@paragraph`  $\{\langle num\ args\ to\ skip\rangle\}$   $\{\langle entire\ colspec\rangle\}$

```
9787 \newcommand*\LWR@printmccoldata@paragraph[2]{%
9788   \LWR@startpars%
9789   \LWR@multicoltext%
9790   \defaddtocounter{LWR@tablemulticolspos}{#1}%
9791   \LWR@stoppars%
9792 }
```

`\LWR@printmccoldata`  $\{\langle entire\ colspec\rangle\}$

Print the data for any valid column type found.

```
9793 \newcommand*\LWR@printmccoldata[1]{%
9794   \LWR@traceinfo{lwr@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9795   \boolfalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9796   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9797   \edef\LWR@printmccoldata@token{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9798   \ifcsdef{LWR@column@mcdata@\LWR@printmccoldata@token}%
9799     {\csuse{LWR@column@mcdata@\LWR@printmccoldata@token}{#1}}%
9800     {}%
```



If an unknown column type, print the text:

```
9801 \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%
```

Tracing:

```
9802 \LWR@traceinfo{lwr@printmccoldata done}%
9803 }
```

```
\parsemulticolumnalignment {\langle 1: colspec \rangle} {\langle 2: printresults csname \rangle}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
9804 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9805 \defcounter{LWR@tablemulticolspos}{1}%
9806 \StrLen{#1}[\LWR@strresult]%
9807 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9808 \whileboolexpr{%
9809 not test {%
9810 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
9811 {\value{LWR@tablemulticolwidth}}%
9812 }%
9813 }%
9814 {%
```

Execute the assigned print function for each token in the column spec:

```
9815 \csuse{#2}{#1}%
```

Move to the next token in the column spec:

```
9816 \defaddtocounter{LWR@tablemulticolspos}{1}%
9817 }%
9818 }
```

### 75.22.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9819 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9820 \ifbool{LWR@tabularmutemods}{\LWR@vertruleHTMLcolor}{%
```

Left side:

```
9821 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9822 \LWR@tdaddstyle%
9823 border-left: 1px solid \LWR@vertruleHTMLcolor%
```

```

9824     }{}%
9825     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9826         \LWR@tdaddstyle%
9827         border-left: 4px double \LWR@vertruleHTMLcolor%
9828     }{}%
9829     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9830         \LWR@tdaddstyle%
9831         border-left: 1px dashed \LWR@vertruleHTMLcolor%
9832     }{}%
9833     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9834         \LWR@tdaddstyle%
9835         border-left: 2px dashed \LWR@vertruleHTMLcolor%
9836     }{}%

```

Right side:

```

9837     \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9838         \LWR@tdaddstyle%
9839         border-right: 1px solid \LWR@vertruleHTMLcolor%
9840     }{}%
9841     \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9842         \LWR@tdaddstyle%
9843         border-right: 4px double \LWR@vertruleHTMLcolor%
9844     }{}%
9845     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9846         \LWR@tdaddstyle%
9847         border-right: 1px dashed \LWR@vertruleHTMLcolor%
9848     }{}%
9849     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9850         \LWR@tdaddstyle%
9851         border-right: 2px dashed \LWR@vertruleHTMLcolor%
9852     }{}%
9853     }%
9854 }

```

```
9855 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
9856 \newcounter{LWR@lastmulticolumn}

```

```
\LWR@domulticolumn [1: vpos] [2: #rows] [3: numLaTeXcols] [4: numHTMLcols] [5: colspec]
  [6: text]

```

```

9857 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
9858     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

9859     \renewcommand{\LWR@multicoltext}{%
9860         #6%
9861         \booltrue{LWR@validtablecol}%
9862     }%

```

Expand the preamble and save it.

```

9863 \LWR@expandpreamble{#5}%
9864 \edef\LWR@origmccolspec{\the\@temptokena}%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

9865 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9866 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9867 \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```

9868 \LWR@maybenewtablerow%

```

Begin the opening table data tag:

```

9869 \LWR@htmltag{%
9870     td colspan=\textquotedbl#4\textquotedbl\ %

9871     \IfValueT{#2}{ % rows?
9872         rowspan=\textquotedbl#2\textquotedbl\ %
9873     }%

9874     class=\textquotedbl{}td%

```

Print the column type and vertical bars:

```

9875 \defcounter{LWR@mcolvertbarsl}{0}%
9876 \defcounter{LWR@mcolvertbarsr}{0}%
9877 \defcounter{LWR@mcolvertbarsldash}{0}%
9878 \defcounter{LWR@mcolvertbarsrdash}{0}%
9879 \booltrue{LWR@mcolvertbaronleft}%
9880 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmcoltype}%

```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```

9881 \LWR@subaddcmidruletrim%
9882     {%
9883         \LWR@getexparray{LWR@trimlrules}%
9884         {\arabic{LWR@tableLaTeXcolindex}}%
9885     }%
9886     {%
9887         \LWR@getexparray{LWR@trimrrules}%
9888         {\arabic{LWR@lastmulticolumn}}%
9889     }%

```

Also add vertical bar class.

```

9890 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
9891 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
9892 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
9893 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
9894 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
9895 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
9896     { tvertbarldoubledash}{}%

```

```

9897     \ifnumcomp{\value{LWR@mclovertbarsrdash}}{=}1{ tvertbarrdash}{}%
9898     \ifnumcomp{\value{LWR@mclovertbarsrdash}}{>}1{%
9899         { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

9900     \textquotedbl{}%

9901     \LWR@tdstartstyles%

```

Style for vertical position:

```

9902     \IfValueT{#1}{% vpos?
9903         \ifstrequal{#1}{b}%
9904         {%
9905             \LWR@tdaddstyle%
9906             \LWR@print@ebox{vertical-align:bottom}%
9907         }{}%
9908         \ifstrequal{#1}{t}%
9909         {%
9910             \LWR@tdaddstyle%
9911             \LWR@print@ebox{vertical-align:top}%
9912         }{}%
9913     }% vpos?

```

Style for row colors:

```

9914     \LWR@addtabulararrowcolor%

```

Other styles:

```

9915     \LWR@addcmidrulewidth%
9916     \LWR@addcdashline%
9917     \LWR@addtabularhrulecolor%
9918     \LWR@addmulticolvertrulecolor%
9919     \LWR@addformatwpaignment{\LWR@origmccolspec}%
9920     \LWR@tdendstyles%
9921     }% end of the opening table data tag
9922     \boolfalse{LWR@intabularmetadata}%
9923     \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
9924 }

```

### 75.22.3 Multicolumn

```
\LWR@htmlmulticolumn {<numcols>}{<alignment>}{<text>}
```

```

9925 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9926 {}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9927     \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```

9928     \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9929 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9930 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9931 \booltrue{LWR@skipatbang}%
9932 }
```

#### 75.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9933 \providelcommand*{\LTcapttype}{table}
```

```
\LWR@longtabledatacaptiontag * [⟨toc entry⟩] {⟨caption⟩}
```

```
9934 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9935 {%
```

Remember the latest name for \nameref:

```
9936 \IfValueTF{#2}{% optional given?
9937   \ifblank{#2}{% optional empty?
9938     {\LWR@setlatestname{#3}}{% empty
9939     {\LWR@setlatestname{#2}}{% given and non-empty
9940   }% optional given
9941   {\LWR@setlatestname{#3}}{% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9942 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
9943 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9944   {\arabic{LWR@tabhtmlcoltotal}}%
9945   {p}%
9946 {% \LWR@domulticolumn
9947 \IfBooleanTF{#1}{% star?
```

Star version, show a caption but do not make a LOT entry:

```
9948 {% yes star
9949   \LWR@figcaption%
9950   \LWR@isolate{#3}%
9951   \endLWR@figcaption%
9952 }%
9953 {% No star:
```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

9954     \ifbool{LWR@starredlongtable}%
9955     {%
9956         \ifblank{#2}% TOC entry
9957         {%
9958             {%
9959                 \refstepcounter{\LTcaption}%
9960                 \protected@edef\@currentlabel{%
9961                     \@nameuse{p@\LTcaption}\@nameuse{the\LTcaption}%
9962                 }%
9963             }%
9964         }%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9965     \LWR@figcaption%
9966     \LWR@isolate{\@nameuse{fnum@\LTcaption}}%
9967     \CaptionSeparator%
9968     \LWR@isolate{#3}%
9969     \endLWR@figcaption%

```

See if an optional caption was given:

```

9970     \ifblank{#2}% TOC entry empty

```

if the optional caption was given, but empty, do not form a TOC entry

```

9971     {%

```

If the optional caption was given, but might only be []:

```

9972     {% TOC entry not empty
9973     \IfNoValueTF{#2}% No TOC entry?

```

The optional caption is []:

```

9974     {% No TOC entry
9975     \addcontentsline%
9976     {\@nameuse{ext@\LTcaption}}%
9977     {\LTcaption}%
9978     {%
9979     \protect\numberline%
9980     {\LWR@isolate{\@nameuse{p@\LTcaption}}\@nameuse{the\LTcaption}}%
9981     {\ignorespaces \LWR@isolate{#3}\protect\relax}%
9982     }%
9983     }% end of No TOC entry

```

The optional caption has text enclosed:

```

9984     {% yes TOC entry
9985     \addcontentsline%
9986     {\@nameuse{ext@\LTcaption}}%
9987     {\LTcaption}%
9988     {%
9989     \protect\numberline%
9990     {\LWR@isolate{\@nameuse{p@\LTcaption}}\@nameuse{the\LTcaption}}%

```

```

9991             {\ignorespaces \LWR@isolate{#2}\protect\relax}%
9992             }%
9993             }% end of yes TOC entry
9994             }% end of TOC entry not empty
9995             }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9996     \booltrue{LWR@skipatbang}%
9997     }% end of \LWR@domulticolumn
9998     \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
9999     \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
10000
10001 }

```

### 75.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

10002 \newcounter{LWR@tabhtmlcolindex}
10003 \newcounter{LWR@tabhtmlcolend}
10004 \newcounter{LWR@tabhtmlcoltotal}

```

```
\LWR@subtabularhtmlcolumns {<index>}
```

Factored from \LWR@tabularhtmlcolumns, which follows.

```
10005 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
10006     \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```

10007     \ifdefempty{\LWR@atbangspec}%
10008         {}%
10009         {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```

10010     \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
10011     \ifdefempty{\LWR@atbangspec}%
10012         {}%
10013         {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
10014 }

```

```
\LWR@tabularhtmlcolumns {<starting LATEX column>} {<number LATEX columns>}
```

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter LWR@tabhtmlcoltotal.

```
10015 \newcommand*\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
10016 \defcounter{LWR@tabhtmlcolindex}{#1}%
10017 \defcounter{LWR@tabhtmlcoltotal}{#2}%
10018 \defcounter{LWR@tabhtmlcolend}{#1}%
10019 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
10020 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
10021 \LWR@subtabularhtmlcolumns{leftedge}%
10022 }{}}%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
10023 \whileboolexpr{%
10024 test {%
10025 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}%
10026 }%
10027 }%
10028 {%
10029 \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
10030 \defaddtocounter{LWR@tabhtmlcolindex}{1}%
10031 }% whiledo
10032 }
```

```
10033 \end{warpHTML}
```

## 75.23 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```
10034 \begin{warpHTML}
10035 \newcommand{\multirow}[2][c]{}
10036 \end{warpHTML}
```

## 75.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a lateximage.

See section 429 for the HTML versions.

**for HTML & PRINT:** 10037 \begin{warpall}



```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:  
<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
10038 \AtBeginDocument{
```

```
\@ifundefined{@xmultirow} determines if multirow was never loaded.
```

Null action if not loaded:

```
10039 \@ifundefined{@xmultirow}
10040 {
10041 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10042   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10043   {}%
10044 }% no version of multirow was loaded
10045 {% \@xmultirow defined, so some version of multirow was loaded
```

```
\IfPackageLoadedTF{multirow} determines if v2.0 or later of multirow was used,
which included the \ProvidesPackage macro.
```

The print version:

```
10046 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10047 \IfPackageAtLeastTF{multirow}{2016/09/01}% 2016/09/27 for v2.0
10048 {% v2.0+:
10049 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10050   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10051   {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
10052 }
10053 {% loaded but older, probably not executed:
10054 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10055   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10056   {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
10057 }
10058 }% packagedloaded{multirow}
```

If not `\IfPackageLoadedTF{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
10059 {% v1.6 or older did not \ProvidePackage
10060 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10061   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10062   {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
10063 }
10064
10065 }% \@ifundefined{@xmultirow}
10066
10067 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
10068
10069 }% AtBeginDocument
```

```
10070 \end{warpall}
```

## 75.25 Utility macros inside a table

**for HTML output:** 10071 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10072 \newcommand*\LWR@donothing{}
```

In case array is not loaded:

```
10073 \let\firsthline\relax
10074 \let\lasthline\relax
10075 \newcommand*\firsthline{}
10076 \newcommand*\lasthline{}
```

In case bigdelim is not loaded:

```
10077 \newcommand*\ldelim{}
10078 \newcommand*\rdelim{}
```

```
10079 \end{warpHTML}
```

## 75.26 Special-case tabular markers


**for HTML & PRINT:** 10080 \begin{warpall}

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).

```
10081 \newcommand*\TabularMacro{}
```

```
10082 \end{warpall}
```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 10083 \begin{warpHTML}

```

10084 \newcommand*\ResumeTabular){%
10085   \boolfalse{LWR@exitingtabular}%
10086   \boolfalse{LWR@tabularmutemods}%
10087   \boolfalse{LWR@tabularfinalrow}%
10088   \LWR@getmynexttoken%
10089 }

```

10090 \end{warpHTML}

**for PRINT output:** 10091 \begin{warpprint}

```

10092 \newcommand*\ResumeTabular){}

```

10093 \end{warpprint}

## 75.27 Checking for a new table cell

**for HTML output:** 10094 \begin{warpHTML}

\LWR@tabledatacolumnntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```

10095 \newcommand*\LWR@tabledatacolumnntag){%
10096 {%
10097   \LWR@traceinfo{LWR@tabledatacolumnntag}%

```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```

10098   \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%

```

If find \end, exit the tabular:

```

10099   \ifdefequal{\LWR@mynexttoken}{\end}%
10100     {%
10101       \booltrue{LWR@tabularfinalrow}%
10102       \booltrue{LWR@exitingtabular}%
10103     }{%

```

longtable can have a caption in a cell

```
10104 \ifdefequal{\LWR@mynexttoken}{\caption}%
10105     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

Look for other things which would not start a table cell:

```
10106 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10107     {\global\let\LWR@mynextaction\LWR@donothing}}%
10108 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10109     {\global\let\LWR@mynextaction\LWR@donothing}}%
10110 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10111     {\global\let\LWR@mynextaction\LWR@donothing}}%
10112 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10113     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10114 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10115     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10116 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10117     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10118 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10119     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10120 \ifdefequal{\LWR@mynexttoken}{\hline}%
10121     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10122 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10123     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10124 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10125     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10126 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10127     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10128 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10129     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10130 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10131     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10132 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10133     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10134 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10135     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```
10136 \ifdefequal{\LWR@mynexttoken}{\cline}%
10137     {\global\let\LWR@mynextaction\LWR@donothing}}%
```

```

10138 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10139     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10140 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10141     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10142 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10143     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10144 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10145     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10146 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10147     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10148 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10149     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10150 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10151     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10152 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10153     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10154 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10155     {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

For arydashln:

```

10156 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10157     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10158 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10159     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10160 \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
10161     {\global\let\LWR@mynextaction\LWR@donothing}}}%

10162 \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
10163     {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

Ignore an empty line between rows:

```

10164 \ifdefequal{\LWR@mynexttoken}{\par}%
10165     {%
10166     \global\let\LWR@mynextaction\LWR@donothing%
10167     }}%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```


10168 \LWR@traceinfo{\LWR@tabledatacolumnntag: done, about to do \LWR@mynextaction}%
10169 \LWR@mynextaction%
10170 }

```

```
10171 \end{warpHTML}
```

## 75.28 \mrowcell

**for HTML & PRINT:** 10172 \begin{warpall}


 **multirow cells** `\mrowcell` The user must insert `\mrowcell` into any `\multirow` cells which must be skipped. This command has no action during print output.

```
10173 \newcommand*\mrowcell{}
```

```
10174 \end{warpall}
```

## 75.29 \mcolrowcell

**for HTML & PRINT:** 10175 \begin{warpall}

 **multirow cells** `\mcolrowcell` The user must insert `\mcolrowcell` into any `\multicolumnrow` cells which must be skipped. This command has no action during print output.

```
10176 \newcommand*\mcolrowcell{}
```

```
10177 \end{warpall}
```

## 75.30 HTML tabular environment

**for HTML output:** 10178 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
10179 \providecommand*\toprule[1][\hline]
10180 \providecommand*\midrule[1][\hline]
10181 \providecommand*\cmidrule{\cline}
10182 \providecommand*\bottomrule[1][\hline]
10183 \providecommand*\addlinespace[1][\ ]
10184 \providecommand*\morecmidrules{}
10185 \providecommand*\specialrule[3][\hline]
```

`\noalign`  $\langle text \rangle$  Redefined for use inside `tabular`.

```
10186 \LetLtxMacro\LWR@orignoalign\noalign
10187
10188 \newcommand{\LWR@tabularnoalign}[1]{%
10189   \advance\rownum\m@ne%
10190   \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10191   \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10192   \multicolumn\value{\LWR@tabletotalLaTeXcols}{L}{#1} \ \
10193   \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10194   % \@row@lors%
10195   \LWR@getmynexttoken%
10196 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10197 \AtBeginDocument{
10198
10199 \IfPackageLoadedTF{lwarp-tabls}
10200 {
10201   \newcommand*{\LWR@HTMLhline}[1][{}]{%
10202     \ifbool{FormatWP}%
10203       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10204       {\defaddtocounter{LWR@hlines}{1}}}%
10205     \LWR@getmynexttoken}%
10206 }
10207 {
10208   \newcommand*{\LWR@HTMLhline}{%
10209     \ifbool{FormatWP}%
10210       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10211       {\defaddtocounter{LWR@hlines}{1}}}%
10212     \LWR@getmynexttoken}%
10213 }
10214
10215 }% AtBeginDocument

```

`\LWR@HTMLcline` `{\langle columns \rangle}`

```

10216 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10217 {%
10218   \LWR@docmidrule{#1}%
10219   \LWR@maybenewtablerow%
10220   \LWR@getmynexttoken%
10221 }%

```

`\LWR@tabular@warpprintonly` `{\langle contents \rangle}`

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10222 \newcommand{\LWR@tabular@warpprintonly}[1][{}]{%
10223   \ifbool{warpingprint}{#1}{}%
10224   \LWR@getmynexttoken%
10225 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` parsing code for each cell, which uses `xstring`.

```

10226 \AtBeginDocument{
10227 \ifundefined{NoAutoSpacing}%
10228 {% no babel-french
10229   \newcommand*{\LWR@nullifyNoAutoSpacing}{}
10230 }% no babel-french
10231 {% yes babel-french
10232   \newcommand*{\LWR@nullifyNoAutoSpacing}{%
10233     \NoAutoSpacing%
10234     \renewcommand*{\NoAutoSpacing}{}%
10235     \renewcommand*{\LWR@FBcancel}{}%
10236   }


```

```
10237 }% yes babel-french
10238 }% AtBeginDocument
```

```
Env tabular <direction> [(<verticalposition>)] {(<colspecs>)}
```

The <direction> is from plect for Japanese documents, and is ignored.

```
10239 \StartDefiningTabulars
10240
10241 \NewDocumentCommand{\LWR@HTML@etabular}{d<> o m}
10242 {%
10243   \LWR@traceinfo{\LWR@HTML@etabular started}%
```

 **<table> inside <span>** In L<sup>A</sup>T<sub>E</sub>X, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. Since there may be several nested <span>s, with an unknown number of other objects between, it is hard to undo all these <span>s before the <table> then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the <table> because several things are neutralized inside a <span>. Furthermore, in the HTML output, the entire <table> is placed on a single line of HTML code, since the line breaking commands are neutralized inside a <span>. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the <span> to print-only.

```
10244   \LWR@spanwarnformat{tabular}%
10245   \addtocounter{LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10246   \boolfalse{LWR@startedrow}%
```

Not yet doing any rules:

```
10247   \defcounter{LWR@hlines}{0}%
10248   \defcounter{LWR@hdashedlines}{0}%
10249   \boolfalse{LWR@doingtbrule}%
10250   \boolfalse{LWR@doingcmidrule}%
```

For babel-french, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
10251   \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
10252   \boolfalse{LWR@exitingtabular}%
10253   \boolfalse{LWR@tabularmutemods}%
```

Not adding final row for the lower border:

```
10254   \boolfalse{LWR@tabularfinalrow}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
10255   \boolfalse{LWR@usedmultirow}%
10256   \boolfalse{LWR@foundmrowcell}%
```



In case of nesting:

```
10257 \renewcommand*{\LWR@multicoltext}{}%
10258 \booltrue{LWR@intabularmetadata}%
```

New PDF page, unless in a `\multirow`:

```
10259 \ifbool{LWR@in@multirow@par}%
10260   {\leavevmode\LWR@orignewline}%
10261   {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a `\multirow`:

```
10262 \boolfalse{LWR@in@multirow@par}%
```

Create the table tag:

```
10263 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10264 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```
10265 \LWR@stoppars%
```

Without at least one header cell, some screen readers think that the table is just for page layout, and do not read it as data. Add a hidden row with a single non-empty header cell to tell the screen readers that this is a table of data for the user.

```
10266 \LWR@htmltag{tr style="display:none"%
10267 \LWR@htmltag{th}.\LWR@htmltag{/th}%
10268 \LWR@htmltag{/tr}%
10269 \LWR@orignewline%
10270 \LWR@forceemptyline%
```

Track column #:

```
10271 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10272 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10273 \LWR@clearmidrules%
```

`\` becomes a macro to end the table row:

```
10274 \LetLtxMacro{\}{\LWR@tabularendofline}%
```

`\warpprintonly` inside a `tabular` must grab the next token.

```
10275 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```
10276 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10277 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10278 \def\LWR@columnHTMLcolor{}%
10279 \def\LWR@rowHTMLcolor{}%
10280 \def\LWR@cellHTMLcolor{}%
10281 \@rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```
10282 \ifdefvoid{\LWR@ruleHTMLcolor}%
10283   {\edef\LWR@vertruleHTMLcolor{black}}%
10284   {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color `<div>`:

```
10285 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabls` package.

```
10286 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10287 \LetLtxMacro\noalign\LWR@tabularnoalign%
10288 \LetLtxMacro\hline\LWR@HTMLhline%
10289 \LetLtxMacro\cline\LWR@HTMLcline%

10290 \DeclareDocumentCommand{\hdashline}{o}{%
10291   \ifbool{FormatWP}%
10292     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10293     {\defaddtocounter{LWR@hdashedlines}{1}}%
10294   \LWR@getmynexttoken%
10295 }%

10296 \DeclareDocumentCommand{\cdashline}{m}{%
10297   \LWR@docdashline{##1}\LWR@getmynexttoken%
10298 }%

10299 \DeclareDocumentCommand{\firsthdashline}{o}{%
10300   \ifbool{FormatWP}%
10301     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10302     {\defaddtocounter{LWR@hdashedlines}{1}}%
10303   \LWR@getmynexttoken%
10304 }%

10305 \DeclareDocumentCommand{\lasthdashline}{o}{%
10306   \ifbool{FormatWP}%
10307     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10308     {\defaddtocounter{LWR@hdashedlines}{1}}%
10309   \LWR@getmynexttoken%
10310 }%
```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10311 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10312 \renewcommand*\mrowcell}{%
10313     \LWR@maybeowntablerow%
10314     \LWR@tabularleftedge%
10315     \booltrue{LWR@skippingmrowcell}%
10316     \booltrue{LWR@foundmrowcell}%
10317 }%
10318 \renewcommand*\mcolrowcell}{%
10319     \LWR@maybeowntablerow%
10320     \booltrue{LWR@skippingmcolrowcell}%
10321     \booltrue{LWR@foundmrowcell}%
10322 }%
10323 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```

10324 \boolfalse{LWR@tableparcell}%
10325 \boolfalse{LWR@skippingmrowcell}%
10326 \boolfalse{LWR@skippingmcolrowcell}%
10327 \boolfalse{LWR@skipatbang}%
10328 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

10329 \StartDefiningTabulars%
10330 \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10331 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

10332 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

10333 \LWR@traceinfo{LWR@HTML@tabular: about to LWR@getmynexttoken}%
10334 \LWR@getmynexttoken%
10335 }%
```

Ending the environment:

```

10336 \newcommand*\LWR@HTML@endtabular}
10337 {%
10338     \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```

10339 \addtocounter{LWR@tabularpardepth}{-1}%
```

Finish a row which is not yet done:

```

10340 \ifboolexpr{%
```

```

10341     test {%
10342         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10343         {\value{LWR@tabletotalLaTeXcols}}
10344     } or %
10345     (%
10346         bool{LWR@intabularmetadata} and%
10347         not bool{LWR@tabularcelladded} and%
10348         test {%
10349             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10350             {\value{LWR@tabletotalLaTeXcols}}%
10351         }%
10352     )%
10353 }%
10354 {%

10355     \booltrue{LWR@tabularfinalrow}%
10356     \LWR@tabularfinishrow%
10357     \boolfalse{LWR@tabularfinalrow}%
10358 }%
10359 {%
10360     \LWR@closetabledatacell%
10361 }%
10362 \ifbool{LWR@startedrow}%
10363     {\LWR@htmltag{/tr}\LWR@orignewline}%
10364     }%

```

#### xcolor row color support:

```

10365     \@rowc@lors%

10366     \LWR@htmlblocktag{/table}%
10367     \boolfalse{LWR@intabularmetadata}%

```

#### Unnest one level of tabular:

```

10368     \addtocounter{LWR@tabulardepth}{-1}%

```

#### Restore & to its usual meaning:

```

10369     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10370         \protected\gdef&{\LWR@origampmacro}%
10371         \StopDefiningTabulars%
10372     }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

10373     \ifbool{LWR@usedmultirow}{%
10374         \ifbool{LWR@foundmrowcell}%
10375             {\relax}%
10376             {%
10377                 \PackageError{lwarp}%
10378                 {%
10379                     When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10380                     or the bigdelim package, \MessageBreak
10381                     place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10382                     in empty cells which are to be skipped.\MessageBreak
10383                     See the Lwarp package documentation:\MessageBreak

```

```

10384             "Special cases and limitations" -> "Tabular"
10385             }%
10386             {%
10387             See the Lwarp package documentation:\MessageBreak
10388             "Special cases and limitations" -> "Tabular".
10389             }%
10390             }%
10391     }{%

10392     \LWR@traceinfo{LWR@HTML@endtabular finished}%
10393 }
10394
10395 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10396
10397 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

10398 \AtBeginDocument{
10399     \LetLtxMacro\LWR@origendtabular\endtabular
10400     \csletcs{LWR@origendtabular*}{endtabular*}
10401     \LWR@formatted{@tabular}
10402     \LWR@formatted{endtabular}
10403     \LWR@formatted{endtabular*}
10404 }

10405 \end{warpHTML}

```

## 76 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

A new entry in \*\_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{<section name>}{<filename>
    {<limagedepth>}{<limagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10406 \begin{warpHTML}

### 76.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
10407 \def\@currentlabelname{\linkhomename}%

```

```
\LWR@stripperiod {<text>} [⟨.⟩]

```

Table 16: Cross-referencing data structures

<b>Original L<sup>A</sup>T<sub>E</sub>X:</b>	(print and HTML)
<p><b>\refstepcounter:</b> Steps the counter and sets \@currentlabel.</p> <p><b>\@currentlabel:</b> \p@&lt;ctr&gt;\the&lt;ctr&gt; Updated by \refstepcounter.</p> <p><b>\label:</b> Writes to the .aux file:  <code>\newlabel{&lt;label&gt;}{\@currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> When the .aux file is read, sets \r@&lt;label&gt;.</p> <p><b>\r@&lt;label&gt;:</b> Set to: <code>{\@currentlabel}{\thepage}</code></p> <p><b>\ref:</b> Returns the first part of \r@&lt;label&gt;.</p> <p><b>\pageref:</b> Returns the second part of \r@&lt;label&gt;.</p>	
<b>Added by lwarp:</b>	(HTML only)
<p><b>\label:</b> Adds HTML tags (section 76.3), and another .aux entry (section 76.2). If memoir is used, its \@mem@old@label points to lwarp's version, and cleveref patches.</p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@lwarp.</p> <p><b>\r@&lt;label&gt;@lwarp:</b> Set to <code>{\section_name}{file_name}{depth}{number}</code>:</p> <p><b>\LWR@nameref:</b> The section or object name for this label.</p> <p><b>\LWR@currentautosecpageref:</b> The LWR@currentautosecpage for this label.</p> <p><b>\LWR@htmlfileref:</b> The filename or name for this label.</p> <p><b>\LWR@lateximagedepthref:</b> The lateximagedepth for this label.</p> <p><b>\LWR@lateximagenumberref:</b> The lateximagenumber for this label.</p> <p><b>\nameref:</b> Emulated from hyperref for lwarp. See section 76.4.</p> <p><b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.</p>	
<b>Added by amsmath:</b>	(print and HTML)
<p><b>\label:</b> Execution is delayed until the math environment is completed.</p> <p><b>\ltx@label:</b> L<sup>A</sup>T<sub>E</sub>X \label, (HTML: patched by lwarp,) later patched by cleveref.</p>	
<b>Added by cleveref:</b>	(print and HTML)
<p><b>\refstepcounter:</b> Added: sets \cref@currentlabel.</p> <p><b>\cref@currentlabel:</b> (&lt;type&gt;=&lt;ctr&gt; unless an alias is used):  <code>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</code> Also see section 60.4 for use with footnotes.</p> <p><b>\label:</b> Writes to the .aux file:  <code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}</code></p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@cref.</p> <p><b>\r@&lt;label&gt;@cref:</b> Set to: <code>{\cref@currentlabel}{\thepage}</code></p> <p><b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.</p> <p><b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.</p>	
<b>Additionally patched by lwarp:</b>	(HTML only)
<p><b>\cref, etc.:</b> Modified for lwarp. See section 202.</p> <p><b>\label inside math:</b> See section 83.7.1.</p>	
<b>Footnotes:</b> See \noteentry in section 60.4.	

Removes a trailing period.

```
10408 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname`  $\{\langle object name \rangle\}$

Removes `\label`, strips any final period, and remembers the result.

```
10409 \newcommand*\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
10410 \GetTitleStringExpand{#1}%
10411 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10412 \edef\@currentlabelname{%
10413     \expandafter\LWR@stripperperiod\@currentlabelname%
10414     \ltx@empty.\ltx@empty\@nil%
10415 }%
10416 }
```

## 76.2 New lwarp labels.

File \*\_html.aux

A new entry in \*\_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{<<section name>}{<filename>}
                                     {<limagedepth>}{<limagenumber>}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref`  $\{\langle args list \rangle\} \{\langle selector \rangle\} \{\langle label \rangle\}$

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with lwarp references. The regular reference will cause the warning.

```
10417 \def\LWR@setref#1#2#3{%
10418     \ifx#1\relax%
10419     ??%
10420     \else%
10421     \expandafter#2#1%
10422     \fi}
```

`\LWR@nameref`  $\{\langle label \rangle\}$  Returns the section name for this label:

```
10423 \newcommand*\LWR@nameref}[1]{%
10424     \begingroup%
10425     \LWR@nullifyfootnotes%
10426     \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10427     \endgroup%
10428 }
```

`\LWR@currentautosecpageref`  $\langle label \rangle$  Returns the `\LWR@currentautosecpageref` for this label:

```
10429 \newcommand*\LWR@currentautosecpageref}[1]{%
10430   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10431 }
```

`\LWR@htmlfileref`  $\langle label \rangle$  Returns the file number or name for this label:

```
10432 \newcommand*\LWR@htmlfileref}[1]{%
10433   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10434 }
```

`\LWR@lateximagedepthref`  $\langle label \rangle$  Returns the `\LWR@lateximagedepthref` for this label:

```
10435 \newcommand*\LWR@lateximagedepthref}[1]{%
10436   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fourthoffive{#1}%
10437 }
```

`\LWR@lateximagenumberref`  $\langle label \rangle$  Returns the `\LWR@lateximagenumberref` for this label:

```
10438 \newcommand*\LWR@lateximagenumberref}[1]{%
10439   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fifthoffive{#1}%
10440 }
```

`\LWR@write@lwarplabel`  $\langle label \rangle$  Sanitize the name and then creates the label:

```
10441 \newcommand*\LWR@write@lwarplabel}[1]{%
10442   \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10443   \LWR@setlatestname{\@currentlabelname}%
10444   \@bsphack%
10445   \protected@write\@auxout{%
10446     {%
10447       \string\newlabel{#1@lwarp}{%
10448         {\@currentlabelname}%
10449         {\the\LWR@currentautosecpageref}%
10450         {%
10451           \ifbool{FileSectionNames}%
10452             {\LWR@thisfilename}%
10453             {\arabic{\LWR@htmlfilenumber}}%
10454         }%
10455         {\arabic{\LWR@lateximagedepth}}%
10456         {\arabic{\LWR@lateximagenumber}}%
10457       }%
10458     }%
10459   \@esphack%
10460 }
```

## 76.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```
10461 \newcommand*\LWR@label@subcreatetag}{%
10462   \LWR@htmltag{a \LWR@print@mbx{id=\textquotedbl\LWR@sanitized\textquotedbl}}%
10463   \LWR@htmltag{/a}%
10464 }
```



`\LWR@label@inmathcomment`

```
10465 \newcommand*{\LWR@label@inmathcomment}{%
10466   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
10467   {%
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a `\mbox` field:

```
10468   \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10469   \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}{}}{%
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```
10470       \LWR@htmlclosecomment%
10471       \LWR@label@subcreatetag%
10472       \LWR@htmlopencomment%
10473   }% mbox
10474 }% mathjax
10475 {%
10476   \LWR@label@subcreatetag%
10477 }%
10478 }
```

`\LWR@label@createtag {<label>}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```
10479 \newcommand*{\LWR@label@createtag}[1]{%
10480   \LWR@traceinfo{LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image:

```
10481   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10482   }{%
10483   {% not lateximage
```

If not doing a `lateximage`, create an HTML ID tag.

```
10484   \LWR@sanitize{#1}%
10485   \ifbool{LWR@insidemathcomment}%
10486   {% inside HTML math comment
10487     \LWR@label@inmathcomment%
10488   }% inside HTML math comment
10489   {% not inside HTML math comment
10490     \ifbool{LWR@doingstartpars}%
10491     {% pars allowed
10492       \ifbool{LWR@doingapar}%
10493       {% par started
10494         \LWR@label@subcreatetag%
```

```

10495           }% par started
10496           {% par not started
10497             \LWR@stoppars%
10498             \LWR@label@subcreatetag%
10499             \LWR@startpars%
10500           }% par not started
10501           }% pars allowed
10502           {% pars not allowed
10503             \LWR@label@subcreatetag%
10504           }% pars not allowed
10505           }% not inside HTML math comment
10506 }% not lateximage
10507 }

```

`\LWR@new@label`  $\{\langle label \rangle\}$

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X `\label`.

This is also used during a `lateximage`, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `lateximage`.

If `memoir` is used, it's `\@mem@old@label` is pointed here.

`cleveref` later encases this to add its own cross-referencing, and also patches `memoir`.

```

10508 \newcommand*{\LWR@new@label}[1]{%
10509   \LWR@traceinfo{\LWR@new@label: starting}%
10510   \LWR@traceinfo{\LWR@new@label: !#1!}%
10511 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```

10512   \LWR@orig@label{#1}%

```

Create a special label which holds the section number, section name, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

10513   \LWR@traceinfo{%
10514     LWR@new@label: filesectionnames is %
10515     \ifbool{FileSectionNames}{true}{false}%
10516   }%
10517   \LWR@traceinfo{%
10518     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10519   }%
10520   \LWR@traceinfo{%
10521     LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10522   }%
10523   \LWR@write@lwarplabel{#1}%
10524   \LWR@label@createtag{#1}%
10525   % \@esphack%
10526   \LWR@traceinfo{\LWR@new@label: done}%
10527 }

```

## 76.4 References

`\LWR@addlinktitle`

```
10528 \newcommand*{\LWR@addlinktitle}{%
10529     \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10530         title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10531         \gdef\LWR@ThisAltText{ }%
10532     }%
10533 }
```

`\LWR@startref` `{\langle label \rangle}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```
10534 \newcommand*{\LWR@startref}[1]
10535 {%
10536     \LWR@sanitize{#1}%
10537     \LWR@traceinfo{\LWR@startref A: !#1!}%
```

Create the filename part of the link:

```
10538     \LWR@htmltag{a href=\textquotedbl%
10539     \LWR@traceinfo{\LWR@startref B}%
10540     \LWR@print@mbx{\LWR@htmlrefsectionfilename{#1}}%
10541     \LWR@traceinfo{\LWR@startref C}%
10542     \LWR@origpound%
```

Create the destination id:

See if `LWR@lateximagedepth` is unknown:

```
10543     \LWR@traceinfo{\LWR@startref D: !#1!}%
10544     \ifcsundef{r#1@lwarp}%
```

“??” if `LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```
10545     {%
10546         \LWR@traceinfo{\LWR@startref D0: ??}%
10547         ??%
10548     }%
```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

(Using `xifthen \ifthenelse` here failed in some cases, but `etoolbox \ifnumgreater` works.)

```
10549     {%
10550         \ifnumgreater{\LWR@lateximagedepthref{#1}}{0}%
10551         {%
10552             lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10553         }%
10554     }%
10555     \LWR@traceinfo{\LWR@startref D3}%
```

`\detokenize` is used to allow underscores in the labels:

```
10556             \LWR@print@mbbox{\LWR@sanitized}%
10557         }%
10558     }%
10559     \LWR@traceinfo{LWR@startref E}%
```

Closing quote:

```
10560     \textquotedbl%
```

Maybe add a title:

```
10561     \LWR@addlinktitle%
10562     }%
10563     \LWR@traceinfo{LWR@startref F}%
10564 }
```

`\LWR@subnewref`  $\{\langle label \rangle\} \{\langle label \text{ or } sub@label \rangle\}$

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1 (b)”.

```
10565 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10566     \LWR@traceinfo{LWR@subnewref #1 #2}%
10567     \LWR@startref{#1}%
10568     \LWR@print@ref{#2}%
10569     \LWR@htmltag{/a}%
10570 }
```

`\ref` \*  $\{\langle label \rangle\}$

`\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref` \*  $\{\langle label \rangle\}$  Create an internal document reference link, or without a link if starred per `hyperref`.

`hyperref` defines a starred version. Since `hyperref` is only emulated, the starred version is defined here for print mode, in case `\ref` is used inside `svg math`:

```
10571 \LWR@absorbstar{ref}%
```

The HTML version:

```
10572 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10573     \LWR@traceinfo{LWR@HTML@ref !#2!}%
10574     \IfBooleanTF{#1}%
10575         {\LWR@print@ref{#2}}%
10576         {\LWR@subnewref{#2}{#2}}%
10577 }
10578
10579 \LWR@formatted{ref}
10580
10581
10582 \NewDocumentCommand{\LWR@HTML@Ref}{s m}{%
10583     \LWR@traceinfo{LWR@HTML@Ref !#2!}%
```

```

10584 \IfBooleanTF{#1}%
10585     {\LWR@print@Ref{#2}}%
10586     {\LWR@subnewref{#2}{#2}}%
10587 }
10588
10589 \LWR@formatted{Ref}

```

`\LWR@refwithsection` \* `{<label>}`

Creates a reference, using the section number as the text. Used for back references.

```

10590 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10591     \LWR@traceinfo{\LWR@refwithsection !#2!}%

```

If starred, just use the text without a hyperlink:

```

10592 \IfBooleanTF{#1}%
10593     {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10594     {%

```

Open the reference:

```

10595         \LWR@startref{#2}%

```

Add the text of the link.

Check for and handle an undefined reference:

```

10596         \edef\@tempa{\LWR@currentautosecpageref{#2}}%
10597         \ifdefstring{\@tempa}{??}%
10598         {??}%

```

For a defined reference:

```

10599         {%

```

Set `\@tempa` to `\r@<label>`, which is `{section number}{page number}`.

```

10600         \edef\@tempa{%
10601             \csname
10602             r@\BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10603             \endcsname%
10604         }%

```

Check the section number alone:

```

10605         \edef\@tempa{\expandafter\@firstoftwo\@tempa}%

```

If the reference has no section number print an asterisk:

```

10606         \expandafter\ifblank\expandafter{\@tempa}%
10607         {*}%

```

If there is a section number, print it:

```

10608         {%
10609             \LWR@print@ref{%

```

```

10610             \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10611             }%
10612             }%
10613             }%

```

Close the reference:

```

10614             \LWR@htmltag{/a}%
10615             }%
10616 }

```

For MATHJAX:

```

10617 \CustomizeMathJax{\let\LWRref\ref}
10618 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

`\pagerefPageFor` Text for page references.

```

10619 \newcommand*{\pagerefPageFor}{see }

```

`\pageref *{<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```

10620 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10621   \IfBooleanTF{#1}%
10622     {(\pagerefPageFor\LWR@print@ref{#2})}%
10623     {(\cpageref{#2})}%
10624 }

```

`\nameref {<label>}`

```

10625 \newrobustcmd*{\nameref}[1]{%
10626   \LWR@traceinfo{nameref}%
10627   \LWR@startref{#1}%
10628   \LWR@traceinfo{nameref B}%
10629   \LWR@nameref{#1}%
10630   \LWR@traceinfo{nameref C}%
10631   \LWR@htmltag{/a}%
10632   \LWR@traceinfo{nameref: done}%
10633 }

```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

```


10634 \LetLtxMacro\Nameref\nameref

```

## 76.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

 Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10635 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10636 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
10637 \AtBeginDocument{
10638   \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopageLabel}%
10639 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10640 \newcommand*{\LWR@linkcatcodes}{%
10641   \catcode'\#=12%
10642   \catcode'\%=12%
10643   \catcode'\&=12%
10644   \catcode'\~=12%
10645   \catcode'\_ =12%
```

For `babel-french`:

```
10646   \LWR@hook@processingtags%
10647 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10648 \newcommand*{\LWR@linkmediacatcodes}{%
10649   \catcode'\#=12%
10650   \catcode'\%=12%
10651 %   \catcode'\&=12% left alone for splitting flash variables
10652   \catcode'\~=12%
10653   \catcode'\_ =12%
```

For `babel-french`:

```
10654   \LWR@hook@processingtags%
10655 }
```

`\LWR@subhyperref`  $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
10656 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10657   \LWR@traceinfo{\LWR@subhyperref !#1!}%
10658   \LWR@sanitize{#1}%
10659   \LWR@htmltag{%
10660     a href=\textquotedbl\LWR@sanitized\textquotedbl\ % space
```

```

10661     \LWR@addlinktitle % space
10662     target=\textquotedbl_{ }blank\textquotedbl % space
10663   }%
10664 }

```

`\LWR@subhyperref`text {<text>}

Finishes the hyperref for `\LWR@href`b. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10665 \newcommand{\LWR@subhyperref}{1}{%
10666   #1%
10667   \LWR@htmltag{/a}%
10668   \LWR@ensuredoingapar%
10669 }

```

`\LWR@subhyperref`class {<URL>} {<text>} {<htmlclass>}

```

10670 \NewDocumentCommand{\LWR@subhyperref}{m +m m}{%
10671   \LWR@htmltag{%
10672     a % space
10673     href=\textquotedbl\begin{group}\@sanitize#1\end{group}\textquotedbl % space
10674     class=\textquotedbl#3\textquotedbl % space
10675     \LWR@addlinktitle % space
10676   }\LWR@orignewline%
10677   #2%
10678   \LWR@htmltag{/a}%
10679   \LWR@ensuredoingapar%
10680 }

```

`\LWR@href` [*<options>*] {<URL>} {<text>}

Create a link with accompanying text:

```

10681 \DeclareDocumentCommand{\LWR@href}{0{ } m}{%
10682   \LWR@ensuredoingapar%
10683   \LWR@subhyperref{#2}%
10684   \endgroup% restore catcodes
10685   \LWR@subhyperref{#1}%
10686 }
10687
10688 \newrobustcmd*{\LWR@href}{%
10689   \begin{group}%
10690   \LWR@linkcatcodes%
10691   \LWR@href{#1}%
10692 }

```

`\LWR@nolinkurl` {<URL>}

Print the name of the link without creating the link:

```

10693 \newcommand*{\LWR@nolinkurl}{1}{%
10694   \LWR@ensuredoingapar%
10695   \def\LWR@templink{#1}%
10696   \@onelevel@sanitize\LWR@templink%
10697   \LWR@templink%
10698   \endgroup%

```



```

10699 }
10700
10701 \newrobustcmd*{\LWR@nolinkurl}{%
10702   \begingroup%
10703   \LWR@linkcatcodes%
10704   \LWR@nolinkurlb%
10705 }

```

`\LWR@url`  $\{\langle URL \rangle\}$

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@url` here and also redefined by `lwarp-url`.

```

10706 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10707   \LWR@ensuredoingapar%
10708   \def\LWR@templink{#1}%
10709   \@onelevel@sanitize\LWR@templink%
10710   \LWR@href{\LWR@templink}{\LWR@templink}%
10711   \endgroup%
10712 }
10713
10714 \newrobustcmd*{\LWR@url}{%
10715   \begingroup%
10716   \LWR@linkcatcodes%
10717   \LWR@urlb%
10718 }

```

`\LWR@subinlineimage`  $\{\langle 1: <alt> tag \rangle\} \{\langle 2: class \rangle\} \{\langle 3: filename \rangle\} \{\langle 4: extension \rangle\} \{\langle 5: css style \rangle\} \{\langle 6: aria role \rangle\}$

Factored from `lateximage`.

```

10719 \newcommand*{\LWR@subinlineimage}[6]{%
10720   \ifblank{#6}%
10721     {\renewcommand*{\LWR@tempone}{}}%
10722     {\renewcommand*{\LWR@tempone}{role="#6"\LWR@indentHTML}}%
10723   \ifblank{#1}%
10724     {%
10725       \LWR@htmltag{img \LWR@indentHTML
10726         src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10727         alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10728         \LWR@tempone
10729         style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10730         class=\textquotedbl#2\textquotedbl \LWR@orignewline
10731       }%
10732     }%
10733   {%
10734     \LWR@htmltag{img \LWR@indentHTML
10735       src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10736       alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10737       \LWR@tempone
10738       style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10739       class=\textquotedbl#2\textquotedbl \LWR@orignewline
10740     }%
10741   }%
10742 }

```

10743 \end{warpHTML}

Table 17: Float data structures

---

For each `<type>` of float (figure, table, etc.) there exists the following:

- counter `<type>`:** A counter called `<type>`, such as figure, table.
  - `\<type>name`:** Name. `\figurename` prints “Figure”, etc.
  - `\ext@<type>`:** File extension. `\ext@figure` prints “lof”, etc.
  - `\fps@<type>`:** Placement.
  - `\the<type>`:** Number. `\thetable` prints the number of the table, etc.
  - `\p@<type>`:** Parent’s number. Prints the number of the [within] figure, etc.
  - `\fnum@<type>`:** Prints the figure number for the caption.  
`\<type>name \the<type>`, “Figure 123”.
  - `\<type>`:** Starts the float environment. `\figure` or `\begin{figure}`
  - `\end<type>`:** Ends the float environment. `\endfigure` or `\end{figure}`
  - `\tf@<ext>`:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.
  - `LWR@have<type>`:** A boolean remembering whether a `\listof` was requested for a float of this type.
  - File with extension `lo<f, t, a-z>`:** An output file containing the commands to build the `\listof<type>` “table-of-contents” structure.
  - Cross-referencing names:** For `cleveref`’s `\cref` and related, `\crefname` and `\Crefname` assign human-readable names for references to this float type.
- 

## 77 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each `<type>` of float.

### 77.1 Float environment

**for HTML output:** 10744 `\begin{warpHTML}`

`\LWR@floatbegin` `{\<type>}` `[\<placement>]` Begins a `\newfloat` environment.

```
10745 \NewDocumentCommand{\LWR@floatbegin}{m o}{%
```

Warn if starting a float inside a `<span>`:

```
10746 \LWR@spanwarninvalid{float}%
```

```
10747 \ifbool{FormatWP}{\newline}{}%
```

```
10748 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10749 \addtocounter{LWR@thisautoid}{1}%
10750 \booltrue{LWR@freezethisautoid}%

10751 \begingroup%
```

Settings while inside the environment:

```
10752 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
10753 \LWR@htmltag{%
10754     figure id=\textquotedbl%
10755         \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}%
10756     \textquotedbl\ % space
10757     class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
10758 }%
10759 \ifbool{FormatWP}{%
10760     \LWR@originewline%
10761     \LWR@BlockClassWP{#1}{wp#1}%
10762 }{ }%
```

Update the caption type:

```
10763 \renewcommand*\@capttype{#1}%
```

Mark the float for a word processor conversion:

```
10764 \LWR@startpars%
10765 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10766
10767     === begin #1 ===
10768
10769 }{ }%
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
10770 }
```

For koma-script. The following does not work for tables.

```
10771 \AtBeginDocument{
10772
10773 \IfPackageLoadedTF{tocbasic}{
10774
10775 \appto\figure@atbegin{%
10776     \LWR@futurenonspacel\@mynexttoken\LWR@floatalignment%
10777 }
10778
10779 }{ }% tocbasic
10780
10781 }% AtBeginDocument
```

`\@xfloat` Support packages which create floats directly.  
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

10782 \AtBeginDocument{
10783   \def\@xfloat #1[#2]{%
10784     \LWR@floatbegin{#1}[#2]
10785     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
10786   }
10787   \def\@xdblfloat #1[#2]{%
10788     \LWR@floatbegin{#1}[#2]
10789     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
10790   }
10791 }

```

`\LWR@floatend` Ends a `\newfloat` environment.

```

10792 \newcommand*\LWR@floatend}{%

```

If saw a `\centering`, finish the center environment:

```

10793   \LWR@endfloatalignment%

```

Mark the float end for a word processor conversion:

```

10794   \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10795     === end ===
10796   }{%
10797   }{%
10798   }{%
10799   \LWR@stoppars%

```

Close an HTML figure tag:

```

10800   \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
10801   \LWR@htmlElementend{figure}%
10802   \endgroup%
10803   \boolfalse{LWR@freezethisautoid}%
10804   \LWR@startpars%
10805   \ifbool{FormatWP}{\newline}{}%
10806 }

```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

```

10807 \AtBeginDocument{
10808   \let\end@float\LWR@floatend
10809   \let\end@dblfloat\LWR@floatend
10810 }

```

## 77.2 Float tracking

Ctrl `LWR@thisautoid`

A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```

10811 \newcounter{LWR@thisautoid}

```

- Ctrl LWR@thisautoidWP      A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOFFICE to form a frame around this element.
- ```
10812 \newcounter{LWR@thisautoidWP}
```
- Bool LWR@freezethisautoid      Prevents multiple increments of \LWR@thisautoid inside a float.
- ```
10813 \newbool{LWR@freezethisautoid}
10814 \boolfalse{LWR@freezethisautoid}
```
- \LWR@forcenewautoidanchor      Adds a new <autoid> anchor.
- ```
10815 \newcommand*{\LWR@forcenewautoidanchor}{%
10816     \addtocounter{LWR@thisautoid}{1}%
10817     \ifbool{LWR@doingapar}%
10818     {%
10819         \LWR@htmltag{a id=\textquotedbl%
10820             \LWR@print@box{autoid-\arabic{LWR@thisautoid}}%
10821             \textquotedbl\ }% space
10822         \LWR@htmltag{/a }%
10823     }%
10824     {%
10825         \LWR@stoppars%
10826         \LWR@htmltag{a id=\textquotedbl%
10827             \LWR@print@box{autoid-\arabic{LWR@thisautoid}}%
10828             \textquotedbl\ }% space
10829         \LWR@htmltag{/a }%
10830         \LWR@startpars%
10831     }%
10832 }
```
- \LWR@newautoidanchor      Sometimes adds a new <autoid> anchor.
- ```
10833 \newcommand*{\LWR@newautoidanchor}{%
10834     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10835     }%
10836     {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
10837 }
```
- \@capttype      Remembers which float type is in use.
- ```
10838 \newcommand*{\@capttype}{}
```
- \LWR@floatalignmentname      Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.
- ```
10839 \newcommand*{\LWR@floatalignmentname}{}
```
- \LWR@floatalignment      If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.
- ```
10840 \newcommand*{\LWR@floatalignment}{%
10841     \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
10842         \center%
10843         \renewcommand*{\LWR@floatalignmentname}{center}%
10844     }{}}%
```

```

10845 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
10846     \flushleft%
10847     \renewcommand*\LWR@floatalignmentname}{flushleft}%
10848 }{%
10849 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
10850     \flushright%
10851     \renewcommand*\LWR@floatalignmentname}{flushright}%
10852 }{%
10853 }

```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

10854 \newcommand*\LWR@endfloatalignment}{%
10855     \ifdefvoid{\LWR@floatalignmentname}%
10856     }{%
10857     {\@nameuse{end\LWR@floatalignmentname}}%
10858     \renewcommand*\LWR@floatalignmentname}{}%
10859 }

```

### 77.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```

10860 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}

```

```
\@caption {<posn>} [<name>] {<long name>}
```

```
\@makecaption {<name and num>} {<text>}
```

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

10861 \AtBeginDocument{
10862     \IfPackageLoadedTF{caption}{}{
10863         \let\LWR@orig@caption\@caption%
10864         \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a `<span>`:

```

10865         \LWR@spanwarnformat{caption}%

10866         \LWR@setlatestname{#2}%
10867         \LWR@orig@caption{#1}[#{#2}]% also takes third argument
10868     }%
10869
10870     \renewcommand{\@makecaption}[2]{%
10871         \LWR@traceinfo{\@makecaption}%
10872         \caption@begin{\@capttype}%
10873         \LWR@isolate{#1}%
10874         \edef\LWR@tempone{#1}%
10875         \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10876         \LWR@isolate{#2}%

```

```

10877         \caption@end%
10878         \LWR@traceinfo{@makecaption: done}%
10879     }%
10880 }
10881 }

```

## 77.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

Ctrl LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.

Ctrl LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```

10882 \newcounter{LWR@nextautoid}
10883 \newcounter{LWR@nextautopage}

```

```
\LWRsetnextfloat {<autopage>} {<float autoid>}
```

File \*\_html.lof This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

File \*\_html.lot

```

10884 \newcommand*\LWRsetnextfloat[2]{%
10885     \setcounter{LWR@nextautopage}{#1}%
10886     \setcounter{LWR@nextautoid}{#2}%
10887 }

```

Env LWR@figcaption An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a longtable where the tabular has already started, or inside a center environment. Therefore, a <div> of class figurecaption is used instead.

```

10888 \newenvironment*LWR@figcaption}
10889     {%
10890         \ifbool{FormatWP}{%
10891             \BlockClass[font-style:italic]{figurecaption}%
10892         }{%
10893             \BlockClass{figurecaption}%
10894         }%

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

10895         \hbadness=10000\relax%
10896     }%
10897     {\endBlockClass}

```



`\LWR@HTML@caption@begin`  $\{\langle type \rangle\}$

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
10898 \newcommand*{\LWR@HTML@caption@begin}[1]
10899 {%
10900   \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep `par` and `minipage` changes local:

```
10901   \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10902   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{}%
10903   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
10904   \LWR@figcaption%
10905   \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10906   \LWR@print@caption@begin{#1}%
10907   \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10908 }
```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
10909 \newcommand*{\LWR@HTML@caption@end}
10910 {%
10911   \LWR@traceinfo{\LWR@HTML@caption@end}%
10912   \LWR@print@caption@end%
```

Closing tag:

```
10913   \endLWR@figcaption%
10914   \endgroup%
10915   % \leavevmode% avoid bad space factor (0) error
10916   \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10917 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument`  
`\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
10918 \AtBeginDocument{
10919   \providecommand{\caption@begin}[1]{}
10920   \LWR@formatted{caption@begin}
10921
10922   \providecommand{\caption@end}{}
10923   \LWR@formatted{caption@end}
10924 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

10925 \AtBeginDocument{%
10926 \IfPackageLoadedTF{caption}{
10927   \let\LWR@origcaptionlistentry\captionlistentry
10928
10929   \renewcommand*\captionlistentry{%
10930     \LWR@ensuredoingapar%
10931     \LWR@origcaptionlistentry%
10932   }

10933   \def\LWR@LTcaptionlistentry{%
10934     \LWR@ensuredoingapar%
10935     \LWR@forcenewautoidanchor%
10936     \bgroup%
10937     \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10938     {\egroup\LWR@LT@captionlistentry}%
10939   }%
10940
10941   \def\LWR@LT@captionlistentry#1{%
10942     \caption@listentry\@firstoftwo[\LTcapttype]{#1}%
10943   }%
10944 }% caption loaded
10945 {% caption not loaded
10946   \newcommand{\captionlistentry}[2][{}]{%
10947     \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
10948   }
10949 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

10950 \let\LWR@origaddcontentsline\addcontentsline
10951
10952 \renewcommand*\addcontentsline[3]{%
10953   \ifstrequal{#1}{toc}{% not TOC

10954     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10955     }%
10956     {\LWR@newautoidanchor}%

10957     \ifcvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

10958       \addtocontents{\@nameuse{ext@#2}}{%
10959         \protect\LWRsetnextfloat%
10960         {\arabic{LWR@currentautosecfloatpage}}%
10961         {\arabic{LWR@thisautoid}}%
10962       }%
10963     }% not TOC
10964     \LWR@origaddcontentsline{#1}{#2}{#3}%
10965 }

```

Pkg capt-of  
Pkg caption

Either package provides `\captionof`, which is later patched at the beginning of

the document.

`\captionof` Patched to handle paragraph tags.

```

10966 \RequirePackage{capt-of}
10967
10968 \AtBeginDocument{
10969   \let\LWR@origcaptionof\captionof
10970
10971   \renewcommand*{\captionof}{%
10972     \LWR@stoppars%
10973     \LWR@origcaptionof%
10974   }
10975 }% AtBeginDocument

10976 \end{warpHTML}

```

## 78 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** `10977 \begin{warpHTML}`

### 78.1 Reading and printing the toc

`\LWR@myshorttoc` `{\<toc/lof/lot/sidetoc)}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```

10978 \newcommand*{\LWR@myshorttoc}[1]{%
10979   \LWR@traceinfo{\LWR@myshorttoc: #1}%

```

Only if the file exists:

```

10980   \IfFileExists{\jobname.#1}{%
10981     \LWR@traceinfo{\LWR@myshorttoc: loading}%

```



Many of the commands in the file will have @ characters in them, so @ must be

made a regular letter.

```
10982     \begingroup%
10983     \makeatletter%
```

Disable \ref to avoid nested HTML references.

```
10984     \LetLtxMacro\ref\LWR@print@ref%
10985     \LWR@disablepinyin%
```

Read in the toc file:

```
10986     \@input{\jobname.#1}%
10987     \endgroup%
10988     }%
10989     {}%
10990     \LWR@traceinfo{LWR@myshorttoc: done}%
10991 }
```

```
\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}
```

Places a TOC/LOF/LOT at the current position.

```
10992 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10993     \@ifundefined{chapter}%
10994     {\LWR@closeprevious{section}}%
10995     {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
10996     \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10997     \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10998     \LWR@htmlElementclass{nav}{#1}%
```

Create the actual list:

```
10999     \LWR@myshorttoc{#1}%
```

Close the nav:

```
11000     \LWR@htmlElementclassend{nav}{#1}%
11001 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```

11002 \let\LWR@orig@starttoc \@starttoc
11003
11004 \renewcommand{\@starttoc}[1]{
11005     \LWR@htmlElementclass{nav}{#1}%
11006     \LWR@orig@starttoc{#1}%
11007     \LWR@htmlElementclassend{nav}{#1}%
11008 }

```

Bool LWR@copiedsidetoc

Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use \tableofcontents for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```

11009 \newbool{LWR@copiedsidetoc}
11010 \boolfalse{LWR@copiedsidetoc}

```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```

11011 \AtBeginDocument{
11012
11013 \LetLtxMacro\LWR@origtableofcontents\tableofcontents
11014
11015 \renewcommand*{\tableofcontents}{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

11016     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
11017
11018     === table of contents ===
11019
11020     }
11021     {

```

Copy the .toc file to .sidetoc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```

11022         \ifbool{LWR@copiedsidetoc}{ }{%
11023             \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
11024             \booltrue{LWR@copiedsidetoc}%
11025         }%
11026         \LWR@printpendingfootnotes

```

Disable \ref to avoid nested HTML references.

```

11027         \begingroup%
11028         \LetLtxMacro\ref\LWR@print@ref%
11029         \LWR@disablepinyin%
11030         \LWR@origtableofcontents%
11031         \endgroup%
11032     }
11033 }% \tableofcontents
11034
11035 }% AtBeginDocument

```

`\listoffigures`

```

11036 \let\LWR@origlistoffigures\listoffigures
11037
11038 \renewcommand*{\listoffigures}{
11039   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11040
11041     === list of figures ===
11042
11043   }
11044   {
11045     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11046     \begingroup%
11047     \LetLtxMacro\ref\LWR@print@ref%
11048     \LWR@disablepinyin%
11049     \LWR@origlistoffigures%
11050     \endgroup%
11051   }
11052 }

```

`\listoftables`

```

11053 \let\LWR@origlistoftables\listoftables
11054
11055 \renewcommand*{\listoftables}{
11056   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11057
11058     === list of tables ===
11059
11060   }
11061   {
11062     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11063     \begingroup%
11064     \LetLtxMacro\ref\LWR@print@ref%
11065     \LWR@disablepinyin%
11066     \LWR@origlistoftables%
11067     \endgroup%
11068   }
11069 }

```

## 78.2 toc commands

`\LWR@listof`  $\langle\{type}\rangle$   $\langle\{title}\rangle$

Emulate the `\listof` command from the `float` package (section 276). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

11070 \NewDocumentCommand{\LWR@listof}{m +m}{%
11071   \@ifundefined{L@#1}{%

```

```

11072     \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
11073     }{ }%
11074     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
11075     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
11076     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
11077         \jobname.\@nameuse{ext@#1}\relax%
11078 }

```

### 78.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidedocname`, and may contain paragraphs.

Per table 18, `css` may be used to format the sideroc.

Table 18: CSS related to the sideroc

**div.sidetoccontainer:** The entire sideroc.

**div.sidetoctitle:** The title.

**div.sidetoccontents:** The table of contents.

```
11079 \end{warpHTML}
```

**for HTML & PRINT:** 11080 `\begin{warpall}`

Ctrl SideTOCDepth

Controls how deep the side-TOC gets. Use a standard  $\LaTeX$  section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

11081 \newcounter{SideTOCDepth}
11082 \setcounter{SideTOCDepth}{1}
11083
11084 \AtEndDocument{%
11085     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
11086         \PackageWarningNoLine{lwarp}
11087         {%
11088             SideTOCDepth is less than FileDepth,\MessageBreak
11089             so some website pages may be inaccessible%
11090         }
11091     }{ }
11092 }

```

`\sidedocname` Holds the default name for the sideroc.

```
11093 \newcommand{\sidedocname}{Contents}
```

```
11094 \end{warpall}
```

**for HTML output:** 11095 `\begin{warpHTML}`

`\LWR@sideroc` Creates the actual side-TOC.

```
11096 \newcommand*{\LWR@sideroc}{%
```

```

11097 \LWR@forcenewpage
11098 \LWR@stoppars
11099

```

The entire sidetoc is placed into a nav of class sidetoc.

```

11100 \LWR@htmlElementclass{div}{sidetoccontainer}
11101 \LWR@htmlElementclass{nav}{sidetoc}
11102
11103 \setcounter{tocdepth}{\value{SideTOCDepth}}
11104

```

The title is placed into a <div> of class sidetoc title, and may contain paragraphs.

```

11105 \begin{BlockClass}{sidetoc title}
11106 \ifcvoid{thetitle}{\InlineClass{sidetoc thetitle}{\thetitle}\par}
11107 \sidetocname
11108 \end{BlockClass}

```

The table of contents is placed into a <div> of class sidetoc contents.

```

11109 \begin{BlockClass}{sidetoc contents}
11110 \LinkHome
11111
11112 \LWR@myshorttoc{sidetoc}
11113 \end{BlockClass}
11114 \LWR@htmlElementclassend{nav}{sidetoc}
11115 \LWR@htmlElementclassend{div}{sidetoc container}
11116 }

```

## 78.4 Low-level toc line formatting

`\numberline` {<number>}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```

11117 \newcommand*\LWR@numberline[1]{%
11118 \LWR@sectionnumber{#1}\quad%
11119 }
11120
11121 \LetLtxMacro\numberline\LWR@numberline

```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```

11122 \newcommand*\LWR@maybetocdata{}

```

`\hypertoc` {<1: depth>} {<2: type>} {<3: name>} {<4: page>}

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1** is depth



**#2** is section, subsection, etc.

**#3** the text of the caption

**#4** page number

```
11123 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11124   \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to tocdepth:

```
11125   \ifnumcomp{#1}{>}{\value{tocdepth}}%
11126     {}%
11127     {%
11128     \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11129   \LWR@subhyperrefclass{%
11130     \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
11131     \LWR@origpound\LWR@print@mbbox{autosec-#4}%
11132     }{#3}{toc#2}%

11133   \LWR@maybetocdata%

11134   \LWR@stoppars%
11135   }%
11136   \LWR@traceinfo{hypertoc done}%
11137 }
```

Ctrl lofdepth

TOC depth for figures.

```
11138 \IfClassLoadedTF{memoir}{}{
11139   \newcounter{lofdepth}
11140   \setcounter{lofdepth}{1}
11141 }
```

Ctrl lotdepth

TOC depth for tables.

```
11142 \IfClassLoadedTF{memoir}{}{
11143   \newcounter{lotdepth}
11144   \setcounter{lotdepth}{1}
11145 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5** page number

```
11146 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```
11147   \@ifundefined{c@#3depth}{%
11148     \newcounter{#3depth}%
11149     \setcounter{#3depth}{1}%
11150   }{}
```

Respond to `lofdepth`, etc.:

```
11151   \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
11152   \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}%
11153     {%
11154       \LWR@startpars%
```

Create an HTML link to `filename#autoid-(float number)`, with text of the caption, of the given HTML class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
11155       \LWR@subhyperrefclass{%
11156       \LWR@htmlrefsectionfilename{%
11157         \BaseJobname-autopage-\arabic{LWR@nextautopage}%
11158       }%
11159       \LWR@origpound\LWR@print@mbbox{autoid-\arabic{LWR@nextautoid}}}%
11160       {#4}{toc#2}%

11161       \LWR@maybetocdata%

11162       \LWR@stoppars%
11163     }%
11164   }%
11165 }
```

Automatically called by `\contentsline`:

```
\l@book  {<name>} {<page>}
```

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\book`.

```
11166 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part  {<name>} {<page>}
```

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\part`.

```
11167 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter`  $\{\langle name \rangle\} \{\langle page \rangle\}$

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
11168 \ifundefined{chapter}
11169 {}
11170 {
11171 \DeclareDocumentCommand{\l@chapter}{m m}
11172   {\hypertoc{0}{chapter}{#1}{#2}}
11173 }
```

`\l@section`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11174 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

`\l@subsection`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11175 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

`\l@subsubsection`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11176 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

`\l@paragraph`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11177 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

`\l@subparagraph`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11178 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

`\l@figure`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11179 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

`\l@table`  $\{\langle name \rangle\} \{\langle page \rangle\}$

```
11180 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
11181 \end{warpHTML}
```

## 79 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/>

[how-to-mention-section-number-in-index-created-by-imakeidx](#)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in

the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 11182 `\begin{warpHTML}`

```
11183 \newcounter{LWR@autoindex}
11184 \setcounter{LWR@autoindex}{0}
11185
11186 \newcounter{LWR@autoglossary}
11187 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.  
`\IndexRangeSeparator`

```
11188 \newcommand*\IndexPageSeparator}{, }
11189 \newcommand*\IndexRangeSeparator}{--}
```

Env `theindex`

```
11190 \@ifundefined{chapter}
11191   {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
11192   {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
11193
11194
11195 \AtBeginDocument{
11196
11197 \renewenvironment*{theindex}{%
11198   \LWR@indexsection{\indexname}%
11199   \LetLtxMacro\item\LWR@indexitem%
11200   \LetLtxMacro\subitem\LWR@indexsubitem%
11201   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11202 }{}
11203
11204 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11205 \newcommand{\LWR@indexitem}[1][\@empty]{
11206
11207   \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11208 }
```

`\LWR@indexsubitem`

```
11209 \newcommand{\LWR@indexsubitem}{
11210
11211   \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11212 }
```

`\LWR@indexsubsubitem`

```
11213 \newcommand{\LWR@indexsubsubitem}{
11214
11215   \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11216 }
```

`\LWR@index@modifyentry`  $\{\langle indexing\ term\rangle\}$

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
11217 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}m}
11218   {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `\hyperindexformat` clause.

```
11219 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11220   \edef\LWR@tempone{#1}%
11221   \edef\LWR@temptwo{#2}%
11222   \IfValueTF{#2}{%
11223     \ifx#2(%
11224       \appto\LWR@tempone{|}%
11225     \else%
11226       \ifx#2)%
11227         \appto\LWR@tempone{|}%
11228       \else%
11229         \appto\LWR@tempone{%
11230           |hyperindexformat\LWRleftbrace%
11231           \LWRbackslash#2%
11232           \LWRrightbrace%
11233         }%
11234       \fi%
11235     \fi%
11236   }%
11237   {}%
11238 }
```

Bool `LWR@index@tricked`      Used to track *xindex* creation. See next.

```
11239 \newbool{LWR@index@tricked}
11240 \boolfalse{LWR@index@tricked}
```

`\@wrindex`  $\{\langle indexing\ term\rangle\}$       Redefined to write the `LWR@autoindex` counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that `\hyperref` was used.

```
11241 \def\LWR@wrindex#1{%
11242   \ifbool{LWR@index}{%
11243     \ifbool{LWR@index@tricked}{%
11244       \protected@write\@indexfile{%
11245         {%
11246           \LWRpercent\space hyperpage\LWRrightbrace%
11247           \LWRpercent\space trick xindex to assume hyperref%
11248         }%
11249       \global\booltrue{LWR@index@tricked}%
11250     }%
11251     \LWR@index@modifyentry{#1}%
11252   }{%
11253     \def\LWR@tempone{#1}%
11254   }%
11255   \addtocounter{LWR@autoindex}{1}%
}
```

```
11256 \protected@write\@indexfile{}%
11257 {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%
```

The label is assigned after the file write to avoid conflict with `cleveref`.

```
11258 \label{LWRindex-\arabic{LWR@autoindex}}%
11259 \endgroup%
11260 \@esphack%
11261 }
11262
11263 \AtBeginDocument{
11264 \let\@wrindex\LWR@wrindex
11265 }
```

`\@wrglossary {<term>}` Redefined to write the `LWR@autoglossary` counter instead of page.

```
11266 \def\@wrglossary#1{%
11267 \addtocounter{LWR@autoglossary}{1}%
11268 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11269 \protected@write\@glossaryfile{}%
11270 {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
11271 \endgroup%
11272 \@esphack%
11273 }
```

`\LWR@indexnameref@anonref {<LWR@autoindex>}`

Displays a reference link where there no `\ref` available.

```
11274 \newcommand*\LWR@indexnameref@anonref[1]{%
11275 \LWR@startref{LWRindex-#1}%
11276 (*)%
11277 \LWR@htmltag{/a}%
11278 }
```

`\LWR@indexnameref@ref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```
11279 \newcommand*\LWR@indexnameref@ref[1]{%
11280 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11281 \ifdefvoid{\LWR@thisref}{}%
11282 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11283 \ifdefvoid{\LWR@thisref}%
11284 {\LWR@indexnameref@anonref{#1}}%
11285 {\ref{LWRindex-#1}}%
11286 }%
11287 }
```

`\LWR@indexnameref@refnameref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or `??` objects, only the name is used.

```
11288 \newcommand*\LWR@indexnameref@refnameref[1]{%
```

```

11289 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11290 \ifdefvoid{\LWR@thisref}{}{%
11291     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11292     \ifdefvoid{\LWR@thisref}{}{%
11293         \ifdefstring{\LWR@thisref}{(*)}%
11294         {}%
11295         {\ref{LWRindex-#1} }% space
11296     }%
11297 }%
11298 \nameref{LWRindex-#1}%
11299 }

```

`\LWR@indexnameref@cref` {<*LWR@autoindex*>}

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

11300 \newcommand*{\LWR@indexnameref@cref}[1]{%
11301     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11302     \ifdefvoid{\LWR@thisref}{}%
11303     \nameref{LWRindex-#1}%
11304 }{%
11305     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11306     \ifdefvoid{\LWR@thisref}{}%
11307     \nameref{LWRindex-#1}%
11308 }{%
11309     \ifdefstring{\LWR@thisref}{(*)}{%
11310         \LWR@indexnameref@anonref{#1}%
11311     }{%
11312         \cref{LWRindex-#1}%
11313     }%
11314 }%
11315 }%
11316 }

```

`\LWR@indexnameref@crefnameref` {<*LWR@autoindex*>}

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

11317 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11318     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11319     \ifdefvoid{\LWR@thisref}%
11320     {}%
11321     {%
11322         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11323         \ifdefvoid{\LWR@thisref}%
11324         {}%
11325         {%
11326             \ifdefstring{\LWR@thisref}{(*)}%
11327             {}%
11328             {\cref{LWRindex-#1} }% space
11329         }%
11330     }%
11331     \nameref{LWRindex-#1}%
11332 }

```

`\LWR@indexnameref`  $\{\langle LWR@autoindex \rangle\}$

Creates a hyperlink based on the given entry's autoindex.

```
11333 \newcommand*\LWR@indexnameref[1]{%
11334   {% group
```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11335     \ifdef{\caption@xref}{%
11336       \renewcommand*\caption@xref[2]{(*)}%
11337     }{%

11338     \ifdefstring{\LWR@IndexRef}{ref}{%
11339       \LWR@indexnameref@ref{#1}%
11340     }{%
11341     \ifdefstring{\LWR@IndexRef}{nameref}{%
11342       \nameref{LWRindex-#1}%
11343     }{%
11344     \ifdefstring{\LWR@IndexRef}{refnameref}{%
11345       \LWR@indexnameref@refnameref{#1}%
11346     }{%
11347     \ifdefstring{\LWR@IndexRef}{cref}{%
11348       \LWR@indexnameref@cref{#1}%
11349     }{%
11350     \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11351       \LWR@indexnameref@crefnameref{#1}%
11352     }{%
11353     \ifdefstring{\LWR@IndexRef}{autoref}{%
11354       \LWR@indexnameref@cref{#1}%
11355     }{% text string
11356       \LWR@startref{LWRindex-#1}%
11357       \LWR@IndexRef%
11358       \LWR@htmltag{/a}%
11359     }}}}]}%
11360   }% group
11361 }
```

`\LWR@doindexentrysubsub`  $\{\langle range\ start: LWR@autoindex, or\ macros. \rangle\} \{\langle range\ end\ or\ blank \rangle\}$

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11362 \newrobustcmd*\LWR@doindexentrysubsub[2]{%
11363   \IfInteger{#1}%
11364     {\LWR@indexnameref{#1}}%
11365     {#1}%
11366   \IfValueT{#2}{%
11367     \IndexRangeSeparator%
11368     \IfInteger{#2}%
11369       {\LWR@indexnameref{#2}}%
11370       {#2}%
11371   }%
11372 }
```

`\LWR@doindexentrysub`  $\{\langle range\ delimiter \rangle\} \{\langle LWR@autoindex\ or\ macros, possible\ a\ range \rangle\}$

```
11373 \NewDocumentCommand{\LWR@doindexentrysub}{m >\SplitArgument{1}{#1}}m}
```




```
11374   {\LWR@doindexentrysubsub#2}
```

`\LWR@doindexentry`  $\{\langle LWR@autoindex \text{ or macros, possible a range} \rangle\}$

```
11375 \newcommand*{\LWR@doindexentry}[1]{%
11376   \relax% required
11377   \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11378 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . . }
```

```
11379 \newcommand{\LWR@hyperindexrefnullified}{%
11380   \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11381   \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11382   \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11383   \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11384   \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11385   \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11386   \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
11387   \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
11388   \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11389   \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11390   \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11391   \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11392   \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11393 }
```

`\hyperindexref`  $\{\langle list \text{ of } LWR@autoindex, \text{ commas, and ranges} \rangle\}$

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
11394 \newcommand*{\hyperindexref}[1]{%
11395   \relax% required
11396   \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11397 }
```

`\LWR@hyperindexref@comma`  $\{\langle separator \rangle\} \{\langle list \text{ of args} \rangle\}$

The list is split at commas, and passed to `\LWR@hyperindexref@@comma`.

```
11398 \NewDocumentCommand{\LWR@hyperindexref@comma}
11399   {m >\SplitList{#1}} m}
11400   {%
```

Used to place the separator between each entry, but not before the first.

```
11401 \def\LWR@hyperindexref@thiscomma{}%
11402 \def\LWR@hyperindexref@nextcomma{#1}%
```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@@comma.

```
11403 \ProcessList{#2}\LWR@hyperindexref@@comma%
11404 }
```

\LWR@hyperindexref@@comma {⟨*arg, perhaps with a range*⟩}

A comma separator is placed if not the first item, then the range is parsed.

```
11405 \newcommand*\LWR@hyperindexref@@comma}[1]{%
11406 \LWR@hyperindexref@thiscomma%
11407 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11408 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11409 }
```

\LWR@hyperindexref@range {⟨*range delimiter*⟩} {⟨*arg*⟩}

```
11410 \NewDocumentCommand{\LWR@hyperindexref@range}
11411 {m >{\SplitArgument{1}{#1}} m}
11412 {\LWR@hyperindexrefsub#2}
```

\LWR@hyperindexrefsub {⟨*range start: LWR@autoindex*⟩} {⟨*range end, or -NoValue-*⟩}

Handles the start and end of a range, if applicable.

```
11413 \newcommand*\LWR@hyperindexrefsub}[2]{%
11414 \LWR@hyperindexrefsubtwo{#1}%
11415 \IfValueT{#2}{%
11416 \IndexRangeSeparator%
11417 \LWR@hyperindexrefsubtwo{#2}%
11418 }%
11419 }
```

\LWR@hyperindexrefsubtwo {⟨*LWR@autoindex*⟩}

```
11420 \newcommand*\LWR@hyperindexrefsubtwo}[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
11421 \edef\LWR@tempone{#1}%
11422 \IfBeginWith{\LWR@tempone}{ }{%
11423 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11424 }{ }%
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
11425 \IfInteger{\LWR@tempone}%
11426 {\LWR@indexnameref{\LWR@tempone}}%
11427 {%
11428 \begingroup%
```

```

11429         \LWR@hyperindexrefnullified%
11430         #1%
11431         \endgroup%
11432     }%
11433 }

```

`\hyperpage` Emulate `hyperref`.

```
11434 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
11435 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

11436 \def\hyperindexformat#1#2{%
11437     #1{\hyperpage{#2}}%
11438 }%

11439 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

11440 \begin{warpprint}
11441 \newcommand{\hyperindexref}[1]{#1}
11442 \end{warpprint}

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11443 \begin{warpall}
11444 \providecommand{\glo@name}{}
11445 \end{warpall}

```

## 80 Bibliography presentation

**for HTML output:** 11446 `\begin{warpHTML}`

`\bibliography` `{\filenames}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel` `{\text-refnumber}`

```
11447 \renewcommand{\@biblabel}[1][[#1]\quad}
```

Env `thebibliography` To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

*Adapted from* `embracedef.sty`, which is by TAKAYUKI YATO:

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

11448 \AtBeginDocument{
11449
11450 \AtBeginEnvironment{thebibliography}{
11451
11452 \providecommand*\LWR@newem}[1]{\textit{#1}}
11453
11454 \renewrobustcmd{\em}{%
11455   \begingroup
11456     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11457     \afterassignment\LWR@em@after
11458     \toks@\bgroup
11459 }
11460
11461 \def\LWR@em@finish#1{%
11462   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11463   \endgroup
11464   \LWR@em@after\egroup
11465 }
11466
11467 }% \AtBeginEnvironment{thebibliography}
11468
11469 }% \AtBeginDocument

11470 \end{warpHTML}

```

## 81 Restoring original formatting

**for HTML output:** 11471 `\begin{warpHTML}`

`\LWR@restoreMathJaxformatting` A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11472 \newcommand*\LWR@restoreMathJaxformatting{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

11473 \newcommand*\LWR@restoreorigformatting}{%
11474   \LWR@traceinfo{LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

11475   \renewcommand*\LWR@formatting}{print}%
11476   \linespread{1}%

```

```

11477 \setbool{LWR@doingparhooks}{false}%

11478 \def\color@endgroup{\endgraf\endgroup}%

11479 \LetLtxMacro\hfil\LWR@origfil%
11480 \let\hss\LWR@orighss%
11481 \let\llap\LWR@origllap%
11482 \let\rlap\LWR@origrlap%
11483 \let\hfilneg\LWR@origfilneg%

11484 \let\,\LWR@origcomma% disable HTML short unbreakable space
11485 \let\textless\LWR@origtextless%
11486 \let\textgreater\LWR@origtextgreater%

11487 \let&\LWR@origampersand%

11488 \LetLtxMacro\em\LWR@origem%
11489 \LetLtxMacro\normalfont\LWR@orignormalfont%
11490 \let\sp\LWR@origsp%
11491 \let\sb\LWR@origsb%
11492 \LetLtxMacro\underline\LWR@origunderline%
11493 \let~\LWR@origtilde%

```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11494 \LetLtxMacro\endtabular\LWR@origendtabular%
11495 \csletcs{endtabular*}{LWR@origendtabular*}%

11496 \LetLtxMacro\noalign\LWR@orignoalign%
11497 \LetLtxMacro\hline\LWR@orighline%

11498 \let\newline\LWR@orignewline%
11499 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11500 \LetLtxMacro@ensuredmath\LWR@origensuredmath%

11501 \let\math\LWR@orig@math%
11502 \let\endmath\LWR@orig@endmath%
11503 \let\displaymath\LWR@orig@displaymath%
11504 \let\enddisplaymath\LWR@orig@enddisplaymath%
11505 %
11506 \LWR@restoreorigaccents%
11507 \LWR@restoreoriglists%

11508 \let\empfootnotetext\LWR@orig@empfootnotetext%

11509 \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

11510 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11511   {\LWR@restoreMathJaxformatting}%
11512   }%
11513 }

```

```
11514 \end{warpHTML}
```

## 82 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 11515 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11516 \newcommand*\LWR@dash}{-}
```

\LWR@nullfonts Removes formatting during filename operations, file references, and HTML comments.



**Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```
11517 \catcode'\$=\active% redefining $ below
```

```
11518 \catcode'\_ =12% redefining \_ below
```

```
11519 \newcommand*\LWR@nullfonts}{%
```

Various built-in symbols.

```
11520 \renewcommand*\${-}%
11521 \renewcommand*\%{-}%
11522 \renewcommand*\_{-}%
11523 \renewcommand*\}{-}%
11524 \renewcommand*\{-}%
11525 \renewcommand*\&{-}% used to be 'and'
11526 \renewcommand*\#{-}%
11527 \renewcommand*\,}{-}%
11528 \renewcommand*\~}{-}%
11529 %
11530 % accents:
11531 \renewcommand*\`[1]{##1}%
11532 \renewcommand*\'}[1]{##1}%
11533 \renewcommand*\^[1]{##1}%
11534 \renewcommand*\~[1]{##1}%
11535 \renewcommand*\=[1]{##1}%
11536 \renewcommand*\u[1]{##1}%
11537 \renewcommand*\.[1]{##1}%
11538 \renewcommand*\"[1]{##1}%
11539 \renewcommand*\H[1]{##1}%
11540 \renewcommand*\v[1]{##1}%
11541 \renewcommand*\d[1]{##1}%
11542 \renewcommand*\c[1]{##1}%
11543 \renewcommand*\b[1]{##1}%
11544 \renewcommand*\t[1]{##1}%
11545 %
11546 \let\newline\LWR@dash%
11547 \let\textasciicircum\LWR@dash%
```

11548 \let\textasciitilde\LWR@dash%  
11549 \let\textasteriskcentered\LWR@dash%  
11550 \let\textbackslash\LWR@dash%  
11551 \let\textbar\LWR@dash%  
11552 \let\textbardbl\LWR@dash%  
11553 \let\textbigcircle\LWR@dash%  
11554 \let\textbraceleft\LWR@dash%  
11555 \let\textbraceright\LWR@dash%  
11556 \let\textbullet\LWR@dash%  
11557 \let\textcopyright\LWR@dash%  
11558 \let\textdagger\LWR@dash%  
11559 \let\textdaggerdbl\LWR@dash%  
11560 \let\textdollar\LWR@dash%  
11561 \let\textellipsis\LWR@dash%  
11562 \let\textendash\LWR@dash%  
11563 \let\textendash\LWR@dash%  
11564 \let\textexclamdown\LWR@dash%  
11565 \let\textgreater\LWR@dash%  
11566 \let\textless\LWR@dash%  
11567 \let\textordfeminine\LWR@dash%  
11568 \let\textordmasculine\LWR@dash%  
11569 \let\textparagraph\LWR@dash%  
11570 \let\textperiodcentered\LWR@dash%  
11571 \let\textpertenthousand\LWR@dash%  
11572 \let\textperthousand\LWR@dash%  
11573 \let\textquestiondown\LWR@dash%  
11574 \let\textquotedblleft\LWR@dash%  
11575 \let\textquotedblright\LWR@dash%  
11576 \let\textquoteleft\LWR@dash%  
11577 \let\textquoteright\LWR@dash%  
11578 \let\textregistered\LWR@dash%  
11579 \let\textsection\LWR@dash%  
11580 \let\textsterling\LWR@dash%  
11581 \let\texttrademark\LWR@dash%  
11582 \let\textunderscore\LWR@dash%  
11583 \let\textvisiblespace\LWR@dash%  
11584 \let\copyright\LWR@dash%  
11585 \let\dag\LWR@dash%  
11586 \let\ddag\LWR@dash%  
11587 \let\dots\LWR@dash%  
11588 \let\P\LWR@dash%  
11589 \let\pounds\LWR@dash%  
11590 \let\S\LWR@dash%  
11591 %  
11592 \renewcommand\*\aa{a}%  
11593 \renewcommand\*\AA{A}%  
11594 \renewcommand\*\AE{AE}%  
11595 \renewcommand\*\ae{ae}%  
11596 \renewcommand\*\dh{d}%  
11597 \renewcommand\*\DH{D}%  
11598 \renewcommand\*\DJ{D}%  
11599 \renewcommand\*\dj{d}%  
11600 \renewcommand\*\IJ{IJ}%  
11601 \renewcommand\*\ij{ij}%  
11602 \renewcommand\*\L{L}%  
11603 \renewcommand\*\l{l}%  
11604 \renewcommand\*\NG{NG}%  
11605 \renewcommand\*\ng{ng}%  
11606 \renewcommand\*\O{O}%  
11607 \renewcommand\*\o{o}%

```

11608 \renewcommand*\oe}{oe}%
11609 \renewcommand*\OE}{OE}%
11610 \renewcommand*\ss}{ss}%
11611 \renewcommand*\SS}{SS}%
11612 \renewcommand*\th}{th}%
11613 \renewcommand*\TH}{TH}%
11614 %
11615 \let\guillemotleft\@empty%
11616 \let\guilsinglleft\@empty%
11617 \let\quotedblbase\@empty%
11618 \let\textquotedbl\@empty%
11619 \let\guillemotright\@empty%
11620 \let\guilsinglright\@empty%
11621 \let\quotesinglbase\@empty%

11622 \renewcommand*\HTMLUnicode}[1]{}%
11623 \renewcommand*\HTMLentity}[1]{}%

11624 \renewcommand\textsuperscript}[1]{##1}%
11625 \renewcommand\textsubscript}[1]{##1}%

11626 \renewcommand\underline[1]{##1}%

11627 \RenewDocumentCommand\hspace{s m}{}%

11628 \RenewDocumentCommand\LRW@htmlspanclass{o D(){} m +m}{##4}%
11629 \DeclareExpandableDocumentCommand\InlineClass{D{(){} } o m +m}{##4}%

```

#### Nullify math macros.

```

11630 \def\##1\){}%
11631 \def\[##1\]{}%
11632 \RenewDocumentCommand\LRW@subsingledollar{s m m m}{}%

```

#### Nullify logos:

```

11633 \renewcommand*\TeX}{TeX}%
11634 \renewcommand*\LaTeX}{LaTeX}%
11635 \renewcommand*\LaTeXe}{LaTeX2e}%
11636 \renewcommand*\LuaTeX}{LuaTeX}%
11637 \renewcommand*\LuaLaTeX}{LuaLaTeX}%
11638 \renewcommand*\XeTeX}{XeTeX}%
11639 \renewcommand*\XeLaTeX}{XeLaTeX}%
11640 \renewcommand*\ConTeXt}{ConTeXt}%
11641 \renewcommand*\BibTeX}{BibTeX}%
11642 \renewcommand*\MakeIndex}{MakeIndex}%
11643 \renewcommand*\AmS}{AmS}%
11644 \renewcommand*\MiKTeX}{MiKTeX}%
11645 \renewcommand*\LyX}{LyX}%

```

#### Use the simpler form with \texorpdfstring:

```

11646 \def\texorpdfstring{\expandafter\@secondoftwo}%
11647 }
11648 \catcode'\$=3%
11649 \catcode'\_ =8%

```



`\FilenameNullify` *{<redefinitions>}*

Adds more nullifying definitions for filename generation.

```
11650 \newcommand*{\FilenameNullify}[1]{%
11651   \appto{\LWR@nullfonts}{#1}%
11652 }

11653 \end{warpHTML}
```

## 83 Math

### 83.1 Limitations

See [Math](#), section 8.7.

### 83.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11654 `\begin{warpall}`

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.  
Default: (

```
11655 \newcommand*{\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.  
Default: )

```
11656 \newcommand*{\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.  
Default: image

```
11657 \newcommand*{\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.  
Default: "math image"

```
11658 \newcommand*{\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11659 \newcommand*{\LWR@ThisAltText}{}%
```

`\ThisAltText`  $\{\langle text \rangle\}$

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
11660 \newcommand*\ThisAltText[1]{%
11661   \renewcommand{\LWR@ThisAltText}{#1}%
11662 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many packages.  
Default: “`diagram`”

```
11663 \newcommand*\PackageDiagramAltText}{diagram}
11664 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** `11665 \begin{warpHTML}`

Ctrl `LWR@externalfilecnt` Counter for the external files which are generated and then referenced from the HTML:

```
11666 \newcounter{LWR@externalfilecnt}
```

Bool `LWR@indisplaymathimage` True if processing display math for `svg` output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11667 \newbool{LWR@indisplaymathimage}
```

Bool `LWR@insidemathcomment` True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label’s HTML tags will be seen by HTML.

```
11668 \newbool{LWR@insidemathcomment}
11669 \boolfalse{LWR@insidemathcomment}
```

Bool `LWR@xfakebold` True if `xfakebold \setBold` is in use.

```
11670 \newbool{LWR@xfakebold}
11671 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11672 \newcommand*\LWR@orig@setBold){}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11673 \newcommand*\LWR@orig@unsetBold){}
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11674 \newcommand*\LWR@applyxfakebold){}
```

`\LWR@setcurrentfont` Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```

11675 \newcommand*\LWR@setcurrentfont}{%
11676   \LWR@traceinfo{Using font family \LWR@f@family}%
11677   \@nameuse{\LWR@print@\LWR@f@family family}%
11678   \LWR@traceinfo{Using font series \LWR@f@series}%
11679   \@nameuse{\LWR@print@\LWR@f@series series}%
11680   \LWR@traceinfo{Using font shape \LWR@f@shape}%
11681   \@nameuse{\LWR@print@\LWR@f@shape shape}%
11682   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11683   \@nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11684 }

```

`\$`

Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```

11685 \let\LWR@origtextdollar\$
11686
11687 \renewcommand*\{\$}{%
11688   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11689     {\LWR@origtextdollar}%
11690     {\HTMLUnicode{00024}}%
11691 }

```

File

`lwarp_baseline_marker.png`

File

`lwarp_baseline_marker.eps`

A marker to be used to help *pdfcrop* identify the inline math baseline and width. If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither `graphics` package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using `graphicx`.

`\LWR@addbaselinemarker` Places a small marker in an SVG inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

11692 \AtBeginDocument{
11693
11694 \ifpdf
11695   \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11696 \else
11697   \ifXeTeX
11698     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11699   \else
11700     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.eps}

```

```

11701 \fi
11702 \fi
11703
11704 \IfFileExists{\LWR@baselinename}%
11705 {
11706   \IfPackageLoadedTF{graphicx}{
11707     \newcommand*\LWR@addbaselinemarker}{%
11708       \LWR@originincludegraphics{\LWR@baselinename}%
11709     }
11710   }{
11711     \IfPackageLoadedTF{graphics}{
11712       \newcommand*\LWR@addbaselinemarker}{%
11713         \LWR@originincludegraphics{\LWR@baselinename}%
11714       }
11715     }{
11716       \newcommand*\LWR@addbaselinemarker}{%
11717         \global\booltrue{LWR@warnbaselinemarker}%
11718       }
11719     \AtEndDocument{
11720       \ifbool{LWR@warnbaselinemarker}{
11721         \PackageNoteNoLine{lwarp}{%
11722           Load graphicx or graphics for improved\MessageBreak
11723           SVG math sizing and baselines%
11724         }
11725       }{}
11726     }
11727   }
11728 }
11729 }{% lwarp_baseline_marker.png or .eps is not present
11730 \newcommand*\LWR@addbaselinemarker}{%
11731   \global\booltrue{LWR@warnbaselinemarker}%
11732 }
11733 \AtEndDocument{
11734   \ifbool{LWR@warnbaselinemarker}{
11735     \PackageWarningNoLine{lwarp}{%
11736       File \LWR@baselinename\space is not installed\MessageBreak
11737       alongside the lwarp-*.sty files, so\MessageBreak
11738       SVG math sizing and baselines may not be accurate}
11739   }{}
11740 }
11741 }
11742
11743 }% AtBeginDocument

```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but graphics or graphicx were not loaded.

```

11744 \newbool{LWR@warnbaselinemarker}
11745 \boolfalse{LWR@warnbaselinemarker}

```

Bool LWR@unknownmathsize If Tikz or other objects are used inside math mode, the resulting image may exceed the TEX box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the HTML styles for image size and depth will be neutralized.

```

11746 \newbool{LWR@unknownmathsize}

```

\LWR@singledollarmeasure  $\langle \textit{math expression} \rangle$

Measures the size of the image of the math expression.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
11747 \newcommand*{\LWR@singledollarmeasure}[1]{%
11748   \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11749   \LWR@restoreorigformatting%
11750   \RenewDocumentEnvironment{lateximage}{s o s o d()}{}{}% inside group
11751   \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11752   \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags.  $\mathcal{A}\mathcal{M}\mathcal{S}$  math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11753   \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11754   \boolfalse{LWR@unknownmathsize}%
11755   \ifmmode%
11756     \global\abox{\LWR@singledollarbox}{#1}%
11757   \else%
11758     \ifbool{LWR@dynamicmath}{%
11759       \ifbool{mathjax}{%
11760         \global\abox{\LWR@singledollarbox}%
11761           {\LWR@origensuredmath{#1}}%
11762       }{%
11763         \global\abox{\LWR@singledollarbox}{#1}%
11764       }%
11765     }{%
11766       \global\abox{\LWR@singledollarbox}{#1}%
11767     }%
11768   \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
11769 \global\sbox{\LWR@singledollarbox}{%
11770     \usebox{\LWR@singledollarbox}%
11771     \raisebox{-\dp\LWR@singledollarbox}{%
11772         \LWR@addbaselinemarker%
11773     }%
11774 }
```

More low-level code to undo the counter change.

```
11775 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11776 \setlength{\LWR@singledollardepth}{%
11777     \LateximageFontScale\dp\LWR@singledollarbox%
11778 }%
```

Make the length a global change:

```
11779 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11780 \setlength{\LWR@singledollarwidth}{%
11781     \LateximageFontScale\wd\LWR@singledollarbox%
11782 }%
11783 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11784 \setlength{\LWR@singledollarheight}{%
11785     \LateximageFontScale\ht\LWR@singledollarbox%
11786 }%
11787 \addtolength{\LWR@singledollarheight}{%
11788     \LateximageFontScale\dp\LWR@singledollarbox%
11789 }%
11790 \global\LWR@singledollarheight=\LWR@singledollarheight%

11791 \endgroup%
11792 }
```

```
\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}
```

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```
11793 \newcommand*\LWR@subsingledollarsvg}[4]{%
11794   \LWR@traceinfo{\LWR@subsingledollartsvg}%
```

Measure the depth, width, and height of the math image:

```
11795   \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
11796   \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11797     \def\LWR@singledollarstyle{%
11798       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11799     }%
11800   }{%
11801     \def\LWR@singledollarstyle{%
11802       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11803     }%
11804   }%
```

If a very narrow width, use the height.

```
11805   \ifdimless{\LWR@singledollarwidth}{.2em}%
11806   {%
11807     \def\LWR@singledollarstyle{%
11808       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11809     }%
11810   }%
11811   {}%
```

If very wide and short, use the width:

```
11812   \ifdimless{\LWR@singledollarheight}{.2em}%
11813   {%
11814     \def\LWR@singledollarstyle{%
11815       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11816     }%
11817   }%
11818   {}%
```

If there is significant text depth, add the depth to the style.

```
11819   \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11820     \def\LWR@singledollardepthstyle{%
11821       \ ; % extra space
11822       \LWR@print@embox{%
11823         vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11824       } % extra space
11825     }%
11826   }{%
11827     \def\LWR@singledollardepthstyle{}%
11828   }%
```

If using certain Tikz actions inside math, the resulting image may exceed the T<sub>E</sub>X boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

11829 \ifbool{LWR@unknownmathsize}{%
11830     \def\LWR@singledollarstyle{}%
11831     \def\LWR@singledollardepthstyle{}%
11832 }{)%

```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11833 \ifbool{LWR@dynamicmath}{%
11834     \LWR@traceinfo{subsingledollarsvg: dynamic}%
11835     \begin{lateximage}% no hashing
11836         [\MathImageAltText]% alt tag
11837         [% no add'l hashing
11838         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11839         (math)% ARIA
11840 }{% not dynamic math
11841     \LWR@traceinfo{subsingledollarsvg: static}%
11842     \IfValueTF{#1}{% #1 True
11843         \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

11844 \ifbool{LWR@xfakebold}%
11845     {\def\LWR@tempone{Y}}%
11846     {\def\LWR@tempone{N}}%

11847 \LWR@traceinfo{subsingledollarsvg about to lateximage}%
11848 \begin{lateximage}*% use hashing
11849     [#2]% alt
11850     *% do not add open/closing braces
11851     [% add'l hashing
11852     #3%
11853     FM\LWR@f@family%
11854     SR\LWR@f@series%
11855     SH\LWR@f@shape%
11856     SHC\LWR@f@shapecaps%
11857     CL\LWR@tempcolor%
11858     FB\LWR@tempone% xfakebold
11859     ]%
11860     [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11861     (math)% ARIA
11862     \LWR@traceinfo{subsingledollar did lateximage}%
11863 }{% #1 False
11864     \begin{lateximage}% no hashing
11865         [#2]% alt
11866         [% no add'l hashing
11867         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11868         (math)% ARIA
11869     }%
11870 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left / right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)



11871 \LWR@addbaselinemarker%

Support for xfakebold:

11872 \LWR@applyxfakebold%

Typeset the contents:

11873 \usebox{\LWR@singledollarbox}%

The closing baseline marker:

11874 \LWR@addbaselinemarker%

11875 \end{lateximage}%

11876 %

11877 }

`\LWR@subsingledollar` \*  $\langle 2: \textit{alt text} \rangle \langle 3: \textit{add'l hashing} \rangle \langle 4: \textit{math expression} \rangle$

For inline math. Uses `MATHJAX`, or for `SVG` math the image is measured and adjusted to the baseline of the `HTML` output, and placed inside a `lateximage`.

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated `TEX` expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

11878 \newlength{\LWR@singledollarwidth}

11879 \newlength{\LWR@singledollarheight}

11880 \newlength{\LWR@singledollardepth}

11881

11882 \newsavebox{\LWR@singledollarbox}

```

11883
11884 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11885   \LWR@traceinfo{\LWR@subsingledollar !#2!}%

11886   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11887   {%
11888     \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11889     #4% contents
11890   }%
11891   {% not in a lateximage
11892     \begingroup%

```

#### Support for xfakebold:

```

11893   \LWR@applyxfakebold%

```

MATHJAX cannot parse the often complicated T<sub>E</sub>X expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MATHJAX. Likewise for `siunitx` if `parse-numbers=false`.

If MATHJAX, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

11894   \ifboolexpr{%
11895     (
11896       bool{\mathjax} or
11897       ( bool{\FormatWP} and bool{\WPMarkMath} )
11898     ) and
11899     ( not test {
11900       \ifstrequal {#2}% from \ensuredmath
11901       {\AltTextOpen\MathImageAltText\AltTextClose}
11902     }
11903     ) and
11904     ( not bool{\LWR@dynamicmath} )
11905   }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11906   {%
11907     \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11908   {%
11909     \textbackslash%
11910   }%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

11911           \ifmmode\else\LWR@print@ttfamily\fi%
11912           \LWR@HTMLsanitizedetokenized{\detokenize{#4}}}%
11913         }%
11914         \textbackslash)%
11915       }%
11916     }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a CSS style to control the baseline adjustment.

```

11917      {% not mathjax
11918          \LWR@traceinfo{%
11919              LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11920          }%
11921          \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11922      }% not mathjax
11923      \endgroup%
11924  }% not in a lateximage

```

Clear the single-use alt text:

```

11925  \gdef\LWR@ThisAltText{%
11926  \LWR@traceinfo{LWR@subsingledollar: done}%
11927  }

11928 \LetLtxMacro\LWR@origdollar$
11929 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

11930 \LetLtxMacro\LWR@origopenparen\
11931 \LetLtxMacro\LWR@origcloseparen\
11932 \LetLtxMacro\LWR@origopenbracket\[
11933 \LetLtxMacro\LWR@origclosebracket\]

```

**\$** Redefine the dollar sign to place math inside a lateximage, or use MATHJAX:  
**\$\$**

```

11934 \begingroup
11935 \catcode'\$=\active%
11936 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by chemformula to escape single-dollar math:

```

11937 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

**\LWR@doubledollar** Redefine the double dollar sign to place math inside a lateximage, or use MATHJAX:

```

11938 \protected\gdef\LWR@doubledollar$#1$$%

```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

11939  \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

For MATHJAX, print the math between  $[$  and  $\]$ . If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.

```

11940  {% intentional blank line:
11941
11942      \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of math.

```

11943      \LWR@hidelatexequation{math}{#1}%

```

```

11944     \InlineClass{hidden}{\LWR@syncnotenumbers}%
11945     \textbackslash[
11946     {%
11947         \LWR@print@ttfamily%
11948         \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
11949     }%
11950     \textbackslash]
11951     \InlineClass{hidden}{\LWR@syncnotenames}%
11952 }{%
11953     \textbackslash[
11954     {%
11955         \LWR@print@ttfamily%
11956         \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
11957     }%
11958     \textbackslash]
11959 }%
11960
11961 }% mathjax

```

For svg, print the math inside a lateximage, with an <alt> tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

11962     {% not mathjax
11963         \begin{BlockClass}{displaymath}%
11964         \LWR@newautoidanchor%
11965         \booltrue{LWR@indisplaymathimage}%
11966         \begin{lateximage}%
11967         [%
11968             \textbackslash{[] % extra space
11969             \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
11970             \textbackslash{]}%
11971         ]%
11972         *% do not add open/closing braces
11973         (math)% ARIA

```

Support for xfakebold:

```

11974     \LWR@applyxfakebold%

11975     \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11976     \end{lateximage}%
11977     \end{BlockClass}%
11978 }% not mathjax

```

Clear the single-use alt text:

```

11979     \gdef\LWR@ThisAltText{}%
11980 }%

```

`\LWR@singledollar` {<math expression>}

```

11981 \protected\gdef\LWR@singledollar#1${%
11982     \LWR@traceinfo{LWR@singledollar}%
11983     \ifbool{mathjax}{%
11984         \LWR@subsingledollar*%
11985         {% alt tag
11986             \textbackslash( %
11987             \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space

```

```

11988         \textbackslash)%
11989     }%
11990     {singledollar}% add'l hashing
11991     {#1}% contents
11992 }{% not mathjax
11993     \LWR@subsingledollar*%
11994     {% alt tag
11995         \textbackslash( %
11996         \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
11997         \textbackslash)%
11998     }%
11999     {singledollar}% add'l hashing
12000     {\LWR@origensuredmath{#1}}% contents
12001 }{% not mathjax

```

Clear the single-use alt text:

```

12002 \gdef\LWR@ThisAltText{}%
12003 }

```

\( Redefine to the above dollar macros.

```

\[
12004 \AtBeginDocument{
12005     \protected\gdef\(#1\){$#1$}
12006     \protected\gdef\[#1\]{$$#1$$}
12007 }
12008
12009 \endgroup% active $

12010 \AtBeginDocument{
12011 \LetLtxMacro\LWR@openbracketnormal\[
12012 \LetLtxMacro\LWR@closebracketnormal\]
12013 }

```

\@ensuredmath {<expression>}

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex TEX expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

12014 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
12015
12016 \renewcommand{\@ensuredmath}[1]{%
12017     \ifbool{mathjax}{%
12018         \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
12019         {%
12020             \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
12021             }%
12022         }%
12023         \relax%
12024         \LWR@origensuredmath{#1}%
12025     }%
12026 }{% SVG math

```

If already inside a `lateximage` in `math` mode, continue as-is.

```

12027     \ifmmode%

```

```
12028         \LWR@origensuredmath{#1}%
12029         \else%
```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```
12030         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
12031         {\LWR@origensuredmath{#1}}%
12032         {%
12033             \LWR@subsingledollar*%
12034             {\AltTextOpen\MathImageAltText\AltTextClose}%
12035             {%
12036                 \protect\LWR@HTMLsanitizedetokenized{%
12037                     \detokenize\expandafter{#1}%
12038                 }%
12039             }%
12040             {\LWR@origensuredmath{#1}}%
12041         }%
12042     \fi%
12043 }%
```

Clear the single-use `alt` text:

```
12044     \gdef\LWR@ThisAltText{}%
12045 }
```

Remember then remove the old `math` and `displaymath` environments:

```
12046 \let\LWR@orig@math\math
12047 \let\LWR@orig@endmath\endmath
12048
12049 \let\LWR@orig@displaymath\displaymath
12050 \let\LWR@orig@enddisplaymath\enddisplaymath
12051
12052 \let\math\relax
12053 \let\endmath\relax
12054
12055 \let\displaymath\relax
12056 \let\enddisplaymath\relax
```

Env `math` Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```
12057 \NewEnviron{math}{\expandafter\(\BODY\)}
```

Env `LWR@displaymathnormal` Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```
12058 \NewEnviron{LWR@displaymathnormal}{\expandafter\[[BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```
12059 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12060 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

Env LWR@displaymathother A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12061 \newenvironment{LWR@displaymathother}
12062 {%
12063   \begin{BlockClass}{displaymath}%
12064   \LWR@newautoidanchor%
12065   \booltrue{LWR@indisplaymathimage}%
12066   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
12067   \LWR@origdollar\LWR@origdollar%
12068 }
12069 {%
12070   \LWR@origdollar\LWR@origdollar%
12071   \end{lateximage}%
12072   \end{BlockClass}%
12073 }

```

Env LWR@equationother A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

12074 \newenvironment{LWR@equationother}
12075 {%
12076   \begin{BlockClass}{displaymathnumbered}%
12077   \LWR@newautoidanchor%
12078   \booltrue{LWR@indisplaymathimage}%
12079   \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
12080   \LWR@orig@equation%
12081 }
12082 {%
12083   \LWR@orig@endequation%
12084   \end{lateximage}%
12085   \end{BlockClass}%
12086 }

```

## 83.4 MATHJAX support

Ctrl LWR@nextequation

Used to add one to compute the next equation number.

```
12087 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

12088 \newcommand\LWR@article@theequation{\@arabic\c@equation}
12089
12090 \newcommand\LWR@book@theequation
12091   {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
12092
12093
12094 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
12095 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
12096 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
12097
12098 \AtBeginDocument{
12099   % default per article class:
12100   \newcommand*\theMathJaxsubequations{\0}
12101   \newcommand*\theMathJaxsection{ }

```

```

12102 \newcommand*\theMathJaxequation{\arabic{equation}}
12103
12104 \ifdefstrequal{\theequation}{\LWR@article@theequation}
12105 {}{
12106 \ifdefstrequal{\theequation}{\LWR@book@theequation}{
12107 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
12108 }{
12109 \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
12110 \renewcommand*\theMathJaxsection{\thesubsection{}}.}
12111 }{
12112 \ifdefstrequal{\theequation}{\LWR@section@theequation}{
12113 \renewcommand*\theMathJaxsection{\thesection{}}.}
12114 }{
12115 \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
12116 \renewcommand*\theMathJaxsection{\thechapter{}}.}
12117 }{% unknown format
12118 \PackageWarningNoLine{lwarp}
12119 {%
12120 Unknown equation tag format for \protect\theequation.\MessageBreak
12121 Article-style equation numbering will be used%
12122 }
12123 }}}}
12124 }

```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(\” and “\)” characters. They are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12125 \newcommand*\LWR@syncmathjax{%
```

Tell MATHJAX that the next equation number is the current L<sup>A</sup>T<sub>E</sub>X equation number.

Before each equation, lwarp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is 0 usually, 1 if inside amsmath subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(\” and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

12126 \LWR@stoppars%
12127 \InlineClass{hidden}{
12128 \textbackslash{
12129 \textbackslash{seteqnumber%
12130 \{\theMathJaxsubequations\}%
12131 \{\theMathJaxsection\}%
12132 \{\theMathJaxequation\}%
12133 \textbackslash{
12134 }
12135 \LWR@startpars%
12136 }

```



`\LWR@hidelatexequation`  $\{\langle environment \rangle\} \{\langle contents \rangle\}$

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
12137 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```
12138   \LWR@stoppars
12139   \LWR@htmlopencomment
12140
```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12141   \begingroup
12142   \@nameuse{LWR@orig@#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```
12143   \LWR@restoreorigformatting
12144   \booltrue{LWR@insidemathcomment}
```

Temporarily prevent underfull `\hbox` warnings.

```
12145   \hbadness=10000\relax%
```

See `\LWR@htmlmathlabel` in section [83.7.1](#).

Print the contents of the equation:

```
12146   #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
12147   \@nameuse{LWR@orig@end#1}
12148   \endgroup
12149
```

Close the HTML comment and resume HTML paragraph handling:

```
12150   \LWR@htmlclosecomment
12151   \boolfalse{LWR@insidemathcomment}
12152   \LWR@startpars
12153 }
```

`\LWR@addmathjax`  $\{\langle environment name \rangle\} \{\langle contents \rangle\}$

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12154 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

```
12155   \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(" and “\)” characters. Print the environment name and contents, sanitizing for HTML special characters.

```

12156   {%
12157     \LWR@print@ttfamily%
12158     \textbackslash{}begin\{#1\}

```

The `alignat` environment takes a mandatory argument, which must be replicated here.

```

12159     \ifboolexpr{
12160       test {\ifstrequal{#1}{alignat}} or
12161       test {\ifstrequal{#1}{alignat*}} or
12162       test {\ifstrequal{#1}{alignat+}}
12163     }%
12164     {\{\arabic{LWR@maxfields@}\}}%
12165     }%

```

The environment contents and `\end`:

```

12166     \LWR@orignewline%
12167     \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#2}}%
12168     \LWR@orignewline%
12169     \textbackslash{}end\{#1\}
12170   }%

12171   \LWR@orignewline
12172 }

```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```

12173 \AtBeginDocument{
12174   \let\LWR@orig@equation\equation
12175   \let\LWR@orig@endequation\endequation
12176   \csletcs{LWR@orig@equation*}{equation*}
12177   \csletcs{LWR@orig@endequation*}{endequation*}
12178 }

```

```
\LWR@doequation {<env contents>} {<env name>}
```

For `SVG` math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\LaTeX$  source for the math.

For `MATHJAX` output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the `MATHJAX` script.

```

12179 \newcommand*{\LWR@doequation}[2]{%
12180

```

If `mathjax` or `FormatWP`, print the  $\LaTeX$  expression:

```

12181   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

`MATHJAX` output:

```

12182   {

```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
12183      \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
12184      \LWR@hidelatexequation{#2}{#1}
12185      }
```

SVG output: Create the lateximage along with an HTML <alt> tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's \BODY.

```
12186      {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
12187      \ifstrequal{#2}{equation*}{%
12188          \begin{BlockClass}{displaymath}%
12189      }{%
12190          \begin{BlockClass}{displaymathnumbered}%
12191      }%
12192      \LWR@newautoidanchor%
12193      \booltrue{LWR@indisplaymathimage}%
12194      \begin{lateximage}[%
12195          \ifstrequal{#2}{equation*}{%
12196              \ifdefequal{\LWR@equationtag}{\theequation}{%
12197          %                               no tag was given
12198              }{%
12199                  (\LWR@equationtag) % tag was given
12200              }%
12201          }{%
12202              (\LWR@equationtag) % automatic numbering
12203          }%
12204          \textbackslash{begin\{#2\}} % extra space
12205      \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#1}} % extra space
12206          \textbackslash{end\{#2\}}%
12207      ]*(math)% alt tag, ARIA
```

Support for xfakebold:

```
12208      \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the lateximage using the contents of the environment.

```
12209      \@nameuse{LWR@orig@#2}%
12210      #1% contents collected by \collect@body
12211      \@nameuse{LWR@orig@end#2}%
12212      \end{lateximage}%
12213      \end{BlockClass}%
12214      }% not mathjax
```

Clear the single-use alt text:

```
12215      \gdef\LWR@ThisAltText{%
12216      }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

12217 \newcommand*{\LWR@doendequation}[1]{%
12218   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
12219   {%
12220     \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12221       \InlineClass{hidden}{\LWR@syncnotenumbers}%
12222       \LWR@addmathjax{#1}{\BODY}%
12223       \InlineClass{hidden}{\LWR@syncnotenames}%
12224     }{%
12225       \LWR@addmathjax{#1}{\BODY}%
12226     }%
12227   }{%
12228

```

Clear the single-use alt text:

```

12229   \gdef\LWR@ThisAltText{}%
12230 }

```

The following are used to synchronize footnote marks and related to MATHJAX if `*note*` is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenumbers` { $\langle$ MathJax variable $\rangle$ } { $\langle$ mark $\rangle$ }

```

12231 \newcommand*{\LWR@synconenotenumbers}[2]{%
12232   \textbackslashash(
12233   \textbackslashash{def\textbackslashash{#1}\{#2\}}
12234   \textbackslashash)
12235 }

```

`\LWR@syncnotenumbers` Assignments to make.

```

12236 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumbers{\LWRfootnote}{\thefootnote}}

```

`\LWR@synconenotename` { $\langle$ MathJax variable $\rangle$ } { $\langle$ text $\rangle$ }

```

12237 \newcommand*{\LWR@synconenotename}[2]{%
12238   \textbackslashash(
12239   \textbackslashash{def\textbackslashash{#1name}\{#2\}}
12240   \textbackslashash)
12241 }

```

`\LWR@syncnotenames` Assignments to make.

```

12242 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}

```

Remove existing equation environment:

```

12243 \AtBeginDocument{
12244   \let\equation\relax
12245   \let\endequation\relax
12246   \csletcs{equation*}{relax}
12247   \csletcs{endequation*}{relax}
12248 }

```

Env `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```

12249 \AtBeginDocument{
12250   \NewEnviron{equation}%
12251     {\LWR@doequation{\BODY}{equation}}%
12252     [\LWR@doendequation{equation}]
12253
12254   \LetLtxMacro\LWR@equationnormal\equation
12255   \LetLtxMacro\endLWR@equationnormal\endequation
12256 }% AtBeginDocument

```

Env `equation*`

```

12257 \AtBeginDocument{
12258   \NewEnviron{equation*}%
12259     {\LWR@doequation{\BODY}{equation*}}%
12260     [\LWR@doendequation{equation*}]
12261
12262   \csletcs{LWR@equationnormalstar}{equation*}
12263   \csletcs{LWR@endequationnormalstar}{endequation*}
12264 }% AtBeginDocument

```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```

12265 \AtBeginDocument{
12266   \LetLtxMacro\LWR@equationless\equation
12267   \LetLtxMacro\endLWR@equationless\endequation
12268   \csletcs{LWR@equationlessstar}{equation*}
12269   \csletcs{LWR@endequationlessstar}{endequation*}
12270 }

```

## 83.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML` for `MATHJAX` to interpret, and `svg` display math environments render their contents as `svg` images and use their contents as the `alt` tag of `HTML` output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `Tikz` pictures, compilation will fail.

`\displaymathother`

**MATHJAX unsupported  
complicated alt tag**

When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate `Tikz` picture, which will not render in `MATHJAX` and will not make sense as an `HTML alt` tag. In this mode, `MATHJAX` is turned off, math display environments become `svg` images, even if `MATHJAX` is selected, and the `HTML alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as `Tikz` pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.  
**simple math objects**

```

12271 \newcommand*{\displaymathnormal}{%
12272   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12273   \LetLtxMacro\[\LWR@openbracketnormal%
12274   \LetLtxMacro\]\LWR@closebracketnormal%
12275   \LetLtxMacro\displaymath\LWR@displaymathnormal%
12276   \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12277   \LetLtxMacro\equation\LWR@equationnormal%
12278   \LetLtxMacro\endequation\endLWR@equationnormal%
12279   \csletcs{equation*}{LWR@equationnormalstar}%
12280   \csletcs{endequation*}{LWR@endequationnormalstar}%
12281 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.  
**complicated math objects**

```

12282 \newcommand*{\displaymathother}{%
12283   \boolfalse{mathjax}%
12284   \LetLtxMacro\displaymath\LWR@displaymathother%
12285   \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12286   \LetLtxMacro\[\LWR@displaymathother%
12287   \LetLtxMacro\]\endLWR@displaymathother%
12288   \LetLtxMacro\equation\LWR@equationother%
12289   \LetLtxMacro\endequation\endLWR@equationother%
12290   \csletcs{equation*}{displaymath}%
12291   \csletcs{endequation*}{enddisplaymath}%
12292 }
```

```
12293 \end{warpHTML}
```

**for PRINT output:** 12294 `\begin{warpprint}`

Print-mode versions:

```

12295 \newcommand*{\displaymathnormal}{}
12296 \newcommand*{\displaymathother}{}
12297 \newcommand*{\theMathJaxsubequations}{0}
12298 \newcommand*{\theMathJaxsection}{}
12299 \newcommand*{\theMathJaxequation}{\arabic{equation}}
```

```
12300 \end{warpprint}
```

**for HTML output:** 12301 `\begin{warpHTML}`

## 83.7 AMS Math environments

### 83.7.1 Support macros

Bool LWR@amsmultline

True if processing a multiline environment.

To compensate for `multline`-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a `multline` environment and not an equation.

```
12302 \newbool{LWR@amsmultline}
12303 \boolfalse{LWR@amsmultline}
```

`\LWR@beginhideamsmath` Starts hiding  $\LaTeX$  math inside an HTML comment.

```
12304 \newcommand*{\LWR@beginhideamsmath}{
12305   \LWR@stoppars
12306   \LWR@origtilde\LWR@orignewline
12307   \LWR@htmlopencomment
12308
12309   \begingroup
12310   \LWR@restoreorigformatting
```

Temporarily prevent underfull `\hbox` warnings.

```
12311   \hbadness=10000\relax%

12312   \booltrue{LWR@insidemathcomment}
12313 }
```

`\LWR@endhideamsmath` Ends hiding  $\LaTeX$  math inside an HTML comment.

```
12314 \newcommand*{\LWR@endhideamsmath}{
12315   \endgroup
12316
12317   \LWR@htmlclosecomment
12318   \boolfalse{LWR@insidemathcomment}
12319   \LWR@orignewline
12320   \LWR@startpars
12321 }
```

### 83.7.2 Environment patches

The `amsmath` environments already collect their contents in `@envbody` for further processing. `eqnarray` is not an  $\mathcal{AMS}$  package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the HTML `<alt>` tag the environment's contents which were automatically captured by the  $\mathcal{AMS}$  environment.

For `MATHJAX`: Each environment is synched with  $\LaTeX$ 's equation numbers, typeset with  $\LaTeX$  inside an HTML comment, then printed to HTML output for `MATHJAX` to process.

`Env eqnarray` This environment is not an  $\mathcal{AMS}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12322 \let\LWR@origeqnarray\eqnarray
12323 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12324 \newbool{LWR@numbereqnarray}
12325 \booltrue{LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
12326 \newcommand{\LWR@eqnarrayfactor}{%
```

If mathjax or FormatWP, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
12327 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
12328 {%
```

If MATHJAX, the environment contents (the \BODY) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
12329 \LWR@syncmathjax%
12330 \boolfalse{LWR@amsmultiline}%
12331 \ifbool{LWR@numbereqnarray}%
12332 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
12333 \LWR@beginhideamsmath%
12334 \LWR@origeqnarray%
12335 \BODY%
12336 \LWR@origendeqnarray%
12337 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
12338 \LWR@addmathjax{eqnarray}{\BODY}%
12339 }%
12340 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
12341 \LWR@addmathjax{eqnarray*}{\BODY}%
12342 }% LWR@numbereqnarray
12343 }% mathjax
12344 {% not mathjax
12345 \ifbool{LWR@numbereqnarray}%
12346 {%
```

For numbered svg equations, first create a lateximage with an alt attribute containing sanitized copy of the source code:

```
12347 \begin{BlockClass}{displaymathnumbered}%
12348 \LWR@newautoidanchor%
12349 \booltrue{LWR@indisplaymathimage}%
12350 \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
12351 \LWR@addmathjax{eqnarray}{\BODY}]*(\math)%
```

Support for xfakebold:



```
12352          \LWR@applyxfakebold%
```

Create the image contents using an actual eqnarray:

```
12353          \LWR@origeqnarray%
12354          \BODY%
12355          \LWR@origendeqnarray%
12356          \end{lateximage}%
12357          \end{BlockClass}%
12358      }%
12359      {% not LWR@numbereqnarray
```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```
12360          \begin{BlockClass}{displaymath}%
12361          \LWR@newautoidanchor%
12362          \booltrue{LWR@indisplaymathimage}%
12363          \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*(\math)%
```

Support for `xfakebold`:

```
12364          \LWR@applyxfakebold%

12365          \def\@eqnrcr{\nonumber\@seqnrcr}
12366          \csuse{LWR@origeqnarray}%
12367          \BODY%
12368          \nonumber\csuse{LWR@origendeqnarray}%
12369          \end{lateximage}%
12370          \end{BlockClass}%
12371      }% LWR@numbereqnarray
12372      }% not mathjax
```

Default to number equations in the future:

```
12373      \booltrue{LWR@numbereqnarray}%
```

Clear the single-use alt text:

```
12374      \gdef\LWR@ThisAltText{}%
12375 }
```

`eqnarray` itself is made with a blank line before and after to force it to be on its own line:

```
12376 \RenewEnviron{eqnarray}
12377 {%
12378
12379 \LWR@eqnarrayfactor
12380
12381 }
```

The starred version is patched to turn off the numbering:

```
12382 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}

12383 \end{warpHTML}
```

## 84 Lateximages

### 84.1 Description

Env lateximage

A `lateximage` is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 81.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A L<sup>A</sup>T<sub>E</sub>X label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The HTML `alt` tag is set to the L<sup>A</sup>T<sub>E</sub>X source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its HTML `alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `svg math` images.

For many packages, the output is placed inside a `lateximage` with an HTML `alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For the `lateximage` environment, the size of the math and text used in the `svg` image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline svg math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 84.2 Support counters and macros

**for HTML output:** 12384 `\begin{warpHTML}`

Ctrl LWR@lateximagenumber Sequence the images.

```
12385 \newcounter{LWR@lateximagenumber}
12386 \setcounter{LWR@lateximagenumber}{0}
```

Ctrl LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
12387 \newcounter{LWR@lateximagedepth}
12388 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12389 \edef\LWR@hashmark{\string#} % for use in \write
12390 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctrl LWR@LIpage Used to reference the PDF page number of a lateximage to be written into `<project>-images.txt`.


```
12391 \newcounter{LWR@LIpage}
```

```
12392 \end{warpHTML}
```

## 84.3 Font size

**for HTML & PRINT:** 12393 `\begin{warpall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** Do not include the leading backslash in the name.

```
12394 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline svg math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12395 \newcommand*{\LateximageFontScale}{1}
```

```
12396 \end{warpall}
```

## 84.4 Equation numbers

**for HTML output:** 12397 `\begin{warpHTML}`

**Ctrl** `LWR@startingequation` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12398 \newcounter{LWR@startingequation}
12399
12400 \ifundefined{chapter}
12401 {
12402 \renewcommand{\theLWR@startingequation}{%
12403   \arabic{LWR@startingequation}%
12404 }
12405 }
12406 {% chapter defined
12407 \renewcommand{\theLWR@startingequation}{%
12408   \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
12409   \arabic{LWR@startingequation}%
12410 }
12411 }
```

**Bool** `LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
12412 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12413 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12414 \newcommand*{\LWR@equationtag}{}%
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12415 \AtBeginDocument{
12416
12417 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@remembertag` `{\tag}`

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12418 \NewDocumentCommand{\LWR@remembertag}{m}{%
12419   \ifbool{LWR@isstartingequation}%
12420   {%
12421     \global\boolfalse{LWR@isstartingequation}%
12422     \xdef\LWR@startingequationtag{#1}%
12423   }{}}%
```

```
12424 \xdef\LWR@equationtag{#1}%
12425 }%
```

```
12426 }% not mathjax
12427 }% AtBeginDocument
```

## 84.5 HTML alt tags

`\LWR@amsmathbody`  $\langle envname \rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12428 \newcommand*\LWR@amsmathbody[1]
12429 {%
12430 \textbackslash\begin\}\{#1\} % extra space
12431 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{the\@envbody}}%
12432 \textbackslash\end\}\{#1\}%
12433 }
```

`\LWR@amsmathbodynumbered`  $\langle envname \rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
12434 \newcommand*\LWR@amsmathbodynumbered[1]
12435 {%
12436 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
12437 {(\LWR@equationtag)}%
12438 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12439 \LWR@amsmathbody{#1} % extra space
12440 }
```

## 84.6 lateximage environment

`\LWR@lateximage@oneimageb`  $\langle 1: alt text \rangle$   $\langle 2: filename \rangle$   $\langle 3: css style \rangle$   $\langle 4: aria role \rangle$  Creates the image for the `lateximage`.

```
12441 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12442 \LWR@subinLineimage{#1}{lateximage}%
12443 {%
12444 \LWR@print@ebox{%
12445 \LWR@ImagesDirectory\OSPathSymbol%
12446 #2%
12447 }%
12448 }{svg}{#3}{#4}%
12449 }
```

`\LWR@lateximage@oneimage`  $\langle 1: alt text \rangle$   $\langle 2: filename \rangle$   $\langle 3: css style \rangle$   $\langle 4: delimit? \rangle$   $\langle 5: aria role \rangle$

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

```
12450 \newcommand{\LWR@lateximage@oneimage}[5]{%
12451 \LWR@traceinfo{\LWR@lateximage@oneimage !#1!#2!#3!#4!#5!}%
12452 \ifdefvoid{\LWR@ThisAltText}{%
```

```

12453     \IfBooleanTF{#4}{%
12454         \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12455     }{%
12456         \LWR@lateximage@oneimageb%
12457             {\AltTextOpen#1\AltTextClose}%
12458             {#2}{#3}{#5}%
12459     }%
12460 }{%
12461     \LWR@lateximage@oneimageb%
12462         {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12463         {#2}{#3}{#5}%
12464     }%
12465 }

```

Env `lateximage` \* [`<2: <alt> tag`] \* [`<4: add'l hashing`] [`<5: css style`] (`<6: aria role`)

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T<sub>E</sub>X expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

A new label is placed into the file `*_html.aux`:

```
\newlabel{LWR@lateximage-<BaseJobname>-<number>}{<x>}{<y>}
```

This is used to find the image in the PDF file, according to its name.

A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the PDF page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```

12466 \catcode'\$=\active%
12467
12468 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{} D(){} }%
12469 {%
12470 \LWR@traceinfo{lateximage !#1!#2!#3!#4!#5!#6!}%
12471 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12472 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%

```

File `*_html.aux`

File `*-images.txt`

Nested lateximages remain one large lateximage:

```
12473 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing lateximage, simply record one more level.  $\mathcal{A}\mathcal{M}\mathcal{S}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\text{\TeX}$  macros are used for tracking nested lateximages.

```
12474 {%
12475 %     \addtocounter{LWR@lateximagedepth}{1}%
12476     \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12477 }%
```

Otherwise, this is the outer-most lateximage:

```
12478 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
12479     \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12480     \setcounter{LWR@startingequation}{\value{equation}}%
12481     \addtocounter{LWR@startingequation}{1}%
12482     \booltrue{LWR@isstartingequation}%
12483     \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
12484     \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```
12485     \addtocounter{LWR@lateximagenumber}{1}%
12486     \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a lateximage, locally do not use mathjax:

```
12487     \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12488     \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull hbox warnings.

```
12489     \hbadness=10000\relax%
```

Next file:

```
12490     \addtocounter{LWR@externalfilecnt}{1}%
12491     \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@Lpage` to the page number for the reference `LWR@lateximage-BaseJobname-XXX`:

```
12492     \setcounterpageref{LWR@Lpage}{%
12493         LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
```

```
12494 }%
12495 \LWR@traceinfo{lateximage: LWR@LPage is \arabic{LWR@LPage}}%
```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```
12496 \LWR@htmltag{span\LWR@indentHTML%
12497     id=\textquotedbl{}%
12498         lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12499         \textquotedbl\LWR@indentHTML
12500         class=\textquotedbl{}lateximagesource\textquotedbl\LWR@originewline
12501     }%
```

Write instructions to the <ImagesDirectory>.txt file:

```
12502 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12503 \IfBooleanTF{#1}% starred
12504 {% hash
```

Compute and save the hashed file name for later use:

```
12505     \ifdefvoid{\LWR@ThisAltText}{%
12506         \IfBooleanTF{#3}{%
12507             \edef\LWR@hashedname{%
12508                 \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12509             }%
12510         }{%
12511             \edef\LWR@hashedname{%
12512                 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12513             }%
12514         }%
12515     }{%
12516         \edef\LWR@hashedname{%
12517             \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12518         }%
12519     }%
12520 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%
```

Write the page, hashing, and hashed name:

```
12521     \immediate\write\LWR@lateximagesfile{%
12522         |\arabic{LWR@LPage}|true|\LWR@hashedname|%
12523     }%
12524 }% hash
12525 {% no hash
```

No hash, so write the page, no hashing, and the image number:

```
12526     \LWR@traceinfo{lateximage: hash false}%
12527     \immediate\write\LWR@lateximagesfile{%
12528         |\arabic{LWR@LPage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|%
12529     }%
12530 }% no hash
```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```
12531 \LWR@traceinfo{lateximage: about to create open comment}%
12532 \LWR@htmlopencomment%
```



One level deeper. At this outer-most `lateximage`, it is known that this is not being used inside an  $\mathcal{AMS}$  `\text`, since the outer-most level will never be in math mode.

```
12533 \addtocounter{LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
12534 \LWR@traceinfo{lateximage: about to create a new page}%
12535 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
12536 \LWR@traceinfo{lateximage: about to create minipage}%
12537 \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}
12538 \ifdimless{\linewidth}{6in}{%
12539   \LWR@print@minipage{\linewidth}%
12540 }{%
12541   \LWR@print@minipage{6in}%
12542 }%

12543 \ifnumgreater{\value{LWR@minipage@depth}}{0}{%
12544   {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
12545   }{%
12546   \@nameuse{LWR@print@LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```
12547 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12548 \LWR@restoreorigformatting%
```

If not inside a `minipage`, use full-page footnotes instead of `minipage` footnotes. These become HTML footnotes.

```
12549 \ifnumgreater{\value{LWR@minipage@depth}}{0}{%
12550   }{%
12551   }%
12552   \def\@mpfn{footnote}%
12553   \def\thempfn{\thefootnote}%
12554   \LetLtxMacro\@footnotetext\LWR@footnotetext%
12555   }%
```

Create the `LWRlateximage<number>` label:

```
12556 \LWR@traceinfo{lateximage: about to create label}%
12557 \LWR@orig@label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12558 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
12559 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12560   \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12561   }%
```

Enable print-mode math functions:

```

12562 \LetLtxMacro$\LWR@origdollar%
12563 \catcode'\$=3% math shift
12564 \LetLtxMacro\(\LWR@origopenparen%
12565 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12566 \ifbool{LWR@indisplaymathimage}{}% not in display math
12567 \LetLtxMacro\[\LWR@origopenbracket%
12568 \LetLtxMacro\]\LWR@origclosebracket%
12569 \let\equation\LWR@orig@equation%
12570 \let\endequation\LWR@orig@endequation%
12571 \csletcs{equation*}{LWR@orig@equation*}%
12572 \csletcs{endequation*}{LWR@orig@endequation*}%
12573 }% not in display math

```

For chemformula:

```

12574 \LetLtxMacro\LWR@newsingledollar$%
12575 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting

12576 }% end of outer-most lateximage
12577 \LWR@traceinfo{lateximage: finished start of environment}%
12578 }% end of \begin{lateximage}

```

`\endlateximage` When the lateximage environment closes:

```

12579 {% start of \end{lateximage}
12580 \LWR@traceinfo{lateximage: starting end of lateximage}%

```

Nested more than one deep?

```

12581 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12582 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%

```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to  $\mathcal{A}\mathcal{M}\mathcal{S}$  `\text` change of `\addtocounter`.

```

12583 {%
12584 \LWR@traceinfo{lateximage: unnesting}%
12585 \global\advance\c@LWR@lateximagedepth -1\relax%
12586 }%

```

If this is the outer-most lateximage:

```

12587 {% end of outer-most lateximage

```

Finish the lateximage minipage and start a new PDF page:

```

12588 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12589 \endLWR@print@minipage%
12590 \LWR@maybe@orignewpage%

```

Close the HTML comment which encapsulated any traces of the lateximage picked up by `pdftotext`:

```

12591 \LWR@print@vspace*{.5\baselineskip}%

```

```
12592 \LWR@htmlclosecomment%
12593 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12594 \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
12595 \IfBooleanTF{#1}% starred
12596 {% hash
12597     \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12598 }% hash
12599 {% no hash
12600     \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12601 }% no hash
```

Be sure that are doing a paragraph:

```
12602 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdf<sub>totext</sub>* comment and also the link to the .svg image:

```
12603 \LWR@htmltag{/span}%
12604 \ifbool{HTMLDebugComments}{%
12605     \LWR@htmlcomment{End of lateximage}%
12606 }{}
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$  \text, so regular \addtocounter may be used here.

```
12607 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12608 \gdef\LWR@ThisAltText{%
12609 }% end of outer-most lateximage
12610 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12611 \LWR@traceinfo{lateximage: done}%
12612 }%
12613 \catcode'\$=3% math shift
12614 \end{warpHTML}
```

**for PRINT output:** 12615 \begin{warpprint}

```
Env lateximage * [<alt> tag] * [<add'l hashing>] [<css style>]
```

Ignored in print mode.

```
12616 \NewDocumentEnvironment{lateximage}{s o s o d()}
12617 {}{}
```

```
12618 \end{warpprint}
```

## 85 center, flushleft, flushright

**for HTML output:** 12619 \begin{warpHTML}

Env center Replace center functionality with css tags. In a <span>, these macros are nullified, but extra % are used to remove spurious spaces here as well.

```

12620 \newenvironment*{LWR@HTML@center}
12621 {%
12622     \LWR@forcenewpage%
12623     \ifbool{FormatWP}%
12624         {\BlockClass[\LWR@print@mbx{text-align:center}]{center}}%
12625         {\BlockClass{center}}%
12626 }
12627 {\endBlockClass}
12628
12629 \LWR@formattedenv{center}

```

Env flushright

```

12630 \newenvironment*{LWR@HTML@flushright}
12631 {%
12632     \LWR@forcenewpage%
12633     \ifbool{FormatWP}%
12634         {\BlockClass[\LWR@print@mbx{text-align:right}]{flushright}}%
12635         {\BlockClass{flushright}}%
12636 }
12637 {\endBlockClass}
12638
12639 \LWR@formattedenv{flushright}

```

Env flushleft

```

12640 \newenvironment*{LWR@HTML@flushleft}
12641 {%
12642     \LWR@forcenewpage%
12643     \ifbool{FormatWP}%
12644         {\BlockClass[\LWR@print@mbx{text-align:left}]{flushleft}}%
12645         {\BlockClass{flushleft}}%
12646 }
12647 {\endBlockClass}
12648
12649 \LWR@formattedenv{flushleft}

```

\centering, \raggedleft, and \raggedright usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See \LWR@floatalignment.

\centering

```

12650 \newcommand*{\LWR@HTML@centering}{%
12651     \ifbool{HTMLDebugComments}{%
12652         \LWR@htmlcomment{centering}%
12653     }{}%
12654 }
12655 \LWR@formatted{centering}

```

\raggedleft

```

12656 \newcommand*{\LWR@HTML@raggedleft}{%

```

```

12657 \ifbool{HTMLDebugComments}{%
12658     \LWR@htmlcomment{raggedleft}%
12659 }{}%
12660 }
12661 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12662 \newcommand*\LWR@HTML@raggedright{%
12663     \ifbool{HTMLDebugComments}{%
12664         \LWR@htmlcomment{raggedright}%
12665     }{}%
12666 }
12667 \LWR@formatted{raggedright}

```

`\leftline {<text>}`

```

12668 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

```

`\centerline {<text>}`

```

12669 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

```

`\rightline {<text>}`

```

12670 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

```

```

12671 \end{warpHTML}

```

## 86 Preloaded packages

**for HTML output:** 12672 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

`\LWR@PreLoadedPackage {<packagename>}`

```

12673 \newcommand*\LWR@PreLoadedPackage}[1]{%
12674     \IfPackageLoadedTF{#1}%
12675     {%
12676         \AtBeginDocument{
12677             \LWR@origRequirePackage{lwarp-#1}%
12678         }
12679     }%
12680 }{}%
12681 }

```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```

12682 \LWR@PreLoadedPackage{inputtrc}

```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12683 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12684 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
12685 \LWR@PreloadedPackage{graphics}
```

```
12686 \LWR@PreloadedPackage{graphicx}
```

`scalegnt` may have been preloaded by `babel`

```
12687 \LWR@PreloadedPackage{scalegnt}
```

`fontaxes` must be preloaded so that `lwarp` may patch it for `HTML`.

```
12688 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before `lwarp`:

```
12689 \LWR@PreloadedPackage{cmbright}
```

```
12690 \LWR@PreloadedPackage{fourier}
```

```
12691 \LWR@PreloadedPackage{kpfonts}
```

```
12692 \LWR@PreloadedPackage{kpfonts-otf}
```

```
12693 \LWR@PreloadedPackage{libertinust1math}
```

```
12694 \LWR@PreloadedPackage{pxfonts}
```

```
12695 \LWR@PreloadedPackage{txfonts}
```

```
12696 \LWR@PreloadedPackage{txgreek}
```

```
12697 \LWR@PreloadedPackage{newpxmath}
```

```
12698 \LWR@PreloadedPackage{newtxmath}
```

```
12699 \LWR@PreloadedPackage{newtxsf}
```

```
12700 \LWR@PreloadedPackage{mathalpha}
```

```
12701 \LWR@PreloadedPackage{unicode-math}
```

`nfssect-cfr` may be preloaded by `cfm-lm` or related font packages.

```
12702 \LWR@PreloadedPackage{nfssect-cfr}
```

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

```
12703 \LWR@PreloadedPackage{ulem}
```

```
12704 \LWR@PreloadedPackage{xetexko}
```

`geometry` is preloaded by `lwarp`, and perhaps by various classes.

```
12705 \LWR@PreloadedPackage{geometry}
```

`plext` is preloaded by some CJK classes.

```
12706 \LWR@PreloadedPackage{plext}
```

stfloats is preloaded by ltj\* classes.

```
12707 \LWR@PreloadedPackage{stfloats}
```

lltjext is preloaded by ltj\* classes.

```
12708 \LWR@PreloadedPackage{lltjext}
```

luatexko must be loaded before lwarp.

```
12709 \LWR@PreloadedPackage{luatexko}
```

```
12710 \end{warpHTML}
```

## 87 siunitx

Pkg siunitx

A few HTML unit equivalents are defined here.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

\cancel is not currently supported for siunitx v3.

Negative values are not automatically colored.

**tabular** Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use \tablenum for each cell. This is especially required for drop-exponent, without which the value will be shown incorrectly.

**drop-exponent**

**table-auto-round** table-auto-round is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.


**Custom units** siunitx allows customized units:

`\DeclareSIUnit`  $\{\langle name \rangle\} \{\langle definition \rangle\}$

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

`\HTMLDeclareSIUnit`  $\{\langle name \rangle\} \{\langle definition \rangle\}$

 **v3 only!** Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```


It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```


**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

 **MathJax**

#### Document modifications required for `MATHJAX`

 `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with `MATHJAX`. The `MATHJAX` emulation also ignores most macro options.


 **complex numbers**

- Complex numbers are displayed as entered, ignoring `output-complex-root`.


**custom units**

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

 **unit spacing**

- Units work better using `~` between units instead of using periods.


 `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centimeter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

 **Missing \$ inserted**

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **`MATHJAX` option**, section 8.7.5.

**for HTML output:** `12711 \begin{warpHTML}`



Options for siunitx:

```

12712 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12713 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12714 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLUnicode{2032}}
12715 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLUnicode{2033}}
12716 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLUnicode{210F}}}}
12717
12718 \appto\LWR@restoreorigformatting{%
12719 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12720 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12721 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%
12722 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^\prime\prime}}}%
12723 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12724 }

12725 \end{warpHTML}

```

**for PRINT output:** The print version of `\HTMLDeclareSIUnit`.

```

12726 \begin{warpprint}
12727 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}
12728 \end{warpprint}

```

## 88 Graphics print-mode modifications

### 88.1 General limitations

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

file extensions

⚠ case sensitive

`\includegraphics` file formats For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo

PDF to SVG

To convert a PDF image to SVG, use the utility *pdftocairo*:

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog lwarpmk pdftosvg

For a large number of images, use *lwarpmk*:

Enter ⇒ **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

Prog lwarpmk epstopdf

For EPS images converted to PDF using the package *epstopdf*, use

Prog epstopdf

epstopdf package

Enter ⇒ **lwarpmk pdftosvg \*.PDF**

to convert to SVG images.

DVI L<sup>A</sup>T<sub>E</sub>X

When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf \*.eps** (or a list of filenames)

Enter ⇒ **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

PNG and JPG

For PNG or JPG while using *pdf<sub>l</sub>atex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF

GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities

If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files

⚠ image not displayed

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ graphics vs. graphicx

If using the older `graphics` syntax, use both optional arguments for `\includegraphics`.

⚠ viewport

A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by *lwarp*—the entire image will be shown.

units

For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.


options

`\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

HTML class

With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.


 **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

`\rotatebox` `\rotatebox` accepts the optional origin key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 88.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new `class` key:

```
12729 \begin{warpprint}
12730 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 460 for the HTML version.

```
12731 \AtBeginDocument{
12732 \IfPackageLoadedTF{overpic}{
12733 \newcommand*{\overpicfontsize}{12}
12734 \newcommand*{\overpicfontskip}{14}
12735 }{}
12736 }
12737 \end{warpprint}

```

## 89 xcolor boxes

Pkg `xcolor`

A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warppall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 12738 `\begin{warppall}`

After `xparse` may have been loaded ...

```
12739 \AtBeginDocument{
```

... and *only* if xcolor was loaded:

```
12740 \IfPackageLoadedTF{xcolor}{
12741 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12742 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12743 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [framemodel] [framecolor] [boxmodel] [boxcolor] [text]
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
12744 \newsavebox{\LWR@colorminipagebox}
12745
12746 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12747   \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12748   \begin{lrbox}{\LWR@colorminipagebox}%
12749   #5%
12750   \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12751   \ifstrequal{#4}{none}%
12752   {% #4 none
12753     \LWR@traceinfo{background is none}%
12754     {% scope the \colorlet
12755       \colorlet{\LWR@currentcolor}{.}%
12756       \color{#2}%
12757       \fbox{%
12758         \color{\LWR@currentcolor}%
12759         \usebox{\LWR@colorminipagebox}%
12760       }% fbox
12761     }% colorlet
12762   }% #4 none
12763   {% #4 not none
12764     \LWR@traceinfo{background not none}%
12765     \IfValueTF{#1}%
12766     {%
12767       \IfValueTF{#3}%
12768       {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
```

```

12769     {\LWR@orig@print@fcolorbox[#1]{#2}{#4}\usebox{\LWR@colorminipagebox}}}%
12770   }%
12771   {% no value #1
12772     \IfValueTF{#3}%
12773     {\LWR@orig@print@fcolorbox[#2][#3]{#4}\usebox{\LWR@colorminipagebox}}}%
12774     {\LWR@orig@print@fcolorbox[#2]{#4}\usebox{\LWR@colorminipagebox}}}%
12775   }% no value #1
12776   }% #4 not none
12777   \LWR@traceinfo{LWR@print@fcolorbox done}%
12778 }

```

```
12779 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

```
\fcolorboxBlock [framemodel] {framecolor} [boxmodel] {boxcolor} {text}
```

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```
12780 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}
```

```
12781 \newrobustcmd*{\fcolorboxBlock}{\LWR@print@fcolorboxBlock}
```

```
Env fcolorminipage [1:framemodel] {2:framecolor} [3:boxmodel] {4:boxcolor} [5:align]
[6:height] [7:inner-align] {8:width}
```

In print mode, becomes a `\fcolorbox` containing a minipage:

```

12782 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{ } o m}
12783 {%
12784   \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12785   \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

12786   \IfValueTF{#7}%
12787   {\begin{minipage}[#5][#6][#7]{#8}}%
12788   {\begin{minipage}[#5][#6][#5]{#8}}%
12789 }%
12790 {%
12791   \end{minipage}%
12792   \end{lrbox}%
12793   \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12794   \ifstrequal{#4}{none}%
12795   {% #4 none
12796     {% scope the \colorlet
12797       \colorlet{\LWR@currentcolor}{.}%
12798       \color{#2}%
12799       \fbox{%

```

```

12800             \color{LWR@currentcolor}%
12801             \usebox{\LWR@colorminipagebox}%
12802             }% fbox
12803             }% colorlet
12804             }% #4 none
12805             {% #4 not none
12806             \IfValueTF{#1}%
12807             {%
12808             \IfValueTF{#3}%
12809             {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12810             {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12811             }%
12812             {% no value #1
12813             \IfValueTF{#3}%
12814             {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12815             {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12816             }% no value #1
12817             }% #4 not none
12818             \LWR@traceinfo{*** finished end fcolorminipage}%
12819 }

```

`xcolor` is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be `\LW@formatted`.

```

12820 \LWR@formatted{colorbox}
12821 \LWR@formatted{colorboxBlock}
12822 \LWR@formatted{fcolorbox}
12823 \LWR@formatted{fcolorboxBlock}
12824 \LWR@formattedenv{fcolorminipage}

12825 \LWR@traceinfo{xcolor patches done}
12826 }{% xcolor loaded
12827 }% AtBeginDocument

12828 \end{warppall}

```

## 90 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

**for PRINT output:** 12829 `\begin{warpprint}`

```

12830 \AtBeginDocument{
12831 \IfPackageLoadedTF{chemmacros}{

12832 \DeclareDocumentEnvironment{polymerdelims}{}
12833 {}{}

```

Env `polymerdelims`

Env `redoxreaction`

```
{\langle space above \rangle} {\langle space below \rangle}
```

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 193.5.

```
12834 \DeclareDocumentEnvironment{redoxreaction}{m m}
12835   {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

12836 }{}% chemmacros
12837 }% AtBeginDocument

12838 \end{warpprint}
```

## 91 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

**for HTML output:**

```
12839 \begin{warppHTML}
12840
12841 \AtEndPreamble{
12842   \RequirePackage{cleveref}
12843 }
12844
12845 \end{warppHTML}
```

## 92 Preexisting label and reference definitions

Remember and patch some label-related defintions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

**for HTML output:**

```
12846 \begin{warppHTML}
12847
12848 \LetLtxMacro\LWR@orig@label\label% includes memoir, before cleveref
12849 \LetLtxMacro\label\LWR@new@label
12850
12851 \LetLtxMacro\LWR@orig@pageref\pageref
12852 \LetLtxMacro\pageref\LWR@new@pageref
12853
12854 \end{warppHTML}
```

## 93 picture environment

Env `picture`

The `picture` environment is enclosed inside a `\lateximage`.

**for HTML output:** `12855 \begin{warpHTML}`


Env `picture`

```
12856 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12857
12858 \AfterEndEnvironment{picture}{\end{lateximage}}

12859 \end{warpHTML}
```


## 94 Minipages and Boxes


A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

**placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.


**side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

 **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

**if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.


**full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.


 **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell lwrap to honor the specified widths of all following minipages and `\parboxes`

`\UseMinipageWidths`  
`\IgnoreMinipageWidths`



until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

 **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

 **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output:** `12860 \begin{warpHTML}`

## 94.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

```
12861 \newlength{\LWR@minipagewidth}
```

Len `\LWR@minipageheight` Used to convert the height into printable units.

```
12862 \newlength{\LWR@minipageheight}
```

## 94.2 Virtual page size

Ctr `LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

```
12863 \newcounter{LWR@virtualpagedepth}
12864 \setcounter{LWR@virtualpagedepth}{0}
```

Env `LWR@setvirtualpage` \* [*columns*]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
12865 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
12866   \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12867     \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12868     \setlength{\linewidth}{6in/#2}%
12869     \setlength{\textwidth}{6in}%
12870     \setlength{\textheight}{9in}%
12871   }{%
12872     \addtocounter{LWR@virtualpagedepth}{1}%
12873   }
12874 {\addtocounter{LWR@virtualpagedepth}{-1}}
```

## 94.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 94.4.

## 94.4 Minipage handling

- Bool** LWR@minipagefullwidth    Should the next minipage have no HTML width?
- ```
12875 \newbool{LWR@minipagefullwidth}
12876 \boolfalse{LWR@minipagefullwidth}
```
- Bool** LWR@forceminipagefullwidth    Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as tabular or multicols, where the actual width depends on the browser width. Controlled by \useminipagewidths and \ignoreminipagewidths.
- ```
12877 \newbool{LWR@forceminipagefullwidth}
12878 \boolfalse{LWR@forceminipagefullwidth}
```
- \minipagefullwidth**    Requests that the next minipage have no width tag in HTML:
- for HTML output:** 12879 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}
- \UseMinipageWidths**    Locally requests that minipage widths be honored.
- ```
12880 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```
- \IgnoreMinipageWidths**    Locally requests that minipage widths be ignored.
- ```
12881 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12882 \end{warpHTML}
```
- for PRINT output:** 12883 \begin{warpprint}
- ```
12884 \newcommand*{\minipagefullwidth}{}
12885 \newcommand*{\UseMinipageWidths}{}
12886 \newcommand*{\IgnoreMinipageWidths}{}
12887 \end{warpprint}
```
- for HTML output:** 12888 \begin{warpHTML}
- Bool** LWR@minipagethispar    Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.
- ```
12889 \newbool{LWR@minipagethispar}
12890 \boolfalse{LWR@minipagethispar}
```
- Ctr** LWR@minipage@depth    Used to track whether to change footnote styles in a lateximage inside an HTML minipage.
- ```
12891 \newcounter{LWR@minipage@depth}
12892 \setcounter{LWR@minipage@depth}{0}
```
- Ctr** LWR@mpfootnote@store    Used to maintain minipage footnote number while nesting inside a lateximage.
- ```
12893 \newcounter{LWR@mpfootnote@store}
```
- Env** minipage    [*⟨vert position⟩*] [*⟨height⟩*] [*⟨inner vert position⟩*] {*⟨width⟩*}

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\linewidth`, `\textwidth`, or `\textheight`, these are scaled proportionally to a 6×9 inch text area.

```
12894 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12895 {%
12896 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12897 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
12898 \setlength{\LWR@minipagewidth}{#4}%
12899 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12900   \addtolength{\LWR@minipagewidth}{3em}% room for frames
12901 }{%
12902 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12903 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
12904 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12905 \ifbool{FormatWP}{\newline}{}%
12906 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
12907 \ifbool{FormatWP}{%
12908
12909 \addtocounter{LWR@thisautoidWP}{1}%
12910 \LWR@htmltag{%
12911   div id=\textquotedbl%
12912     \LWR@print@mbbox{autoidWP-\arabic{LWR@thisautoidWP}}%
12913   \textquotedbl\ % space
12914   class=\textquotedbl{}wminipage\textquotedbl%
12915 }%
12916
12917 }{%
```

Create the <div> tag with optional alignment style:

```
12918 \LWR@traceinfo{minipage: creating div class}%
12919 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
12920 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{%
12921 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{%
12922 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{%
12923 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{%
12924 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{%
```

```
12925 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbbox[justify-content:flex-end] ; }{}%
12926 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbbox[justify-content:space-between] ; }{}%
```

Print the width and optional height styles:

```
12927 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12928 \ifbool{LWR@minipagefullwidth}%
12929 {\global\boolfalse{LWR@minipagefullwidth}}%
12930 {%
12931     \ifbool{LWR@forceminipagefullwidth}%
12932         {}%
12933     {%
12934         \ifdimequal{#4}{\linewidth}%
12935             {}%
12936             {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12937     }%
12938 }%
12939 \LWR@traceinfo{minipage: about to print the height}%
12940 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
12941 \textquotedbl%
12942 }%
```

Finish with an empty line to start the contents on a new line.

```
12943
12944 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
12945 \ifnunequal{\value{LWR@virtualpagedepth}}{1}{}%
12946     \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12947 }{}%
12948 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12949 \LWR@print@raggedright%

12950     \LWR@newautopagelabel{page}%
```

Set minipage footnotes:

```
12951 \def\@mpfn{mpfootnote}%
12952 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12953 \let\@footnotetext\@mpfootnotetext%
```

Track depth for `lateximage` footnote type:

```
12954 \addtocounter{LWR@minipage@depth}{1}%
```

Resume paragraph tag handling for the contents of the minipage:

```

12955 \LWR@startpars%
12956 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12957
12958 === begin minipage ===
12959
12960 }{%
12961 \LWR@traceinfo{minipage: finished starting the minipage}%
12962 }% finished \minipage
12963 {% \endminipage

```

Print pending minipage footnotes:

```
12964 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```

12965 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12966
12967 === end minipage ===
12968
12969 }{%
12970 \LWR@stoppars%
12971
12972 \ifbool{FormatWP}{%
12973
12974 \LWR@htmlmlelementend{div}%
12975
12976 }{%

```

Wrapup:

```

12977 \addtocounter{LWR@minipage@depth}{-1}%
12978 \LWR@htmldivclassend{minipage}%
12979
12980 \end{LWR@setvirtualpage}%
12981 \LWR@startpars%
12982 \ifbool{FormatWP}{\newline}{%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12983 \global\booltrue{LWR@minipagethispar}%
12984 \LWR@traceinfo{LWR@minipage: done}%
12985 }
12986
12987 \NewDocumentEnvironment{LWR@HTML@minipage}{0{} 0{} 0{} m}
12988   {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12989   {\endLWR@HTML@sub@minipage}
12990
12991 \LWR@formattedenv{minipage}

```

## 94.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

12992 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12993 {
12994 \LWR@traceinfo{parbox of width #4}%
12995 \begin{minipage}[#1][#2][#3]{#4}%
12996 #5
12997 \end{minipage}%
12998 }
12999
13000 \LWR@formatted{parbox}

```

`\mbox` {*⟨text⟩*} Nullified for HTML.

```

13001 \newcommand*{\LWR@HTML@mbox}[1]{#1}
13002
13003 \LWR@formatted{mbox}

```

`\LWR@makebox@paren` {*⟨width⟩*}, {*⟨height⟩*}

Adds to the style in `\LWR@temptwo`.

```

13004 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
13005 \IfValueTF{#2}{%
13006   \setlength{\LWR@tempwidth}{#1\unitlength}%
13007   \setlength{\LWR@tempheight}{#2\unitlength}%
13008   \appto{\LWR@temptwo}{%
13009     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
13010     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
13011   }%
13012 }{%
13013   \PackageError{lwarp}%
13014     {(width,height) is missing a comma ',' character}%
13015     {\protect\makebox\space and \protect\framebox\space accept
13016       a size in the format (width,height).}%
13017 }%
13018 }

```

`\LWR@makebox@align` {*⟨alignment character⟩*}

Adds to the style in `\LWR@temptwo`.

```

13019 \newcommand*{\LWR@makebox@align}[1]{%
13020   \def\LWR@align{center}%
13021   \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
13022   \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
13023   \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
13024   \appto{\LWR@temptwo}{%
13025     \LWR@print@mbox{text-align:\LWR@align} ; %
13026   }%
13027 }

```

`\makebox` (*⟨width,height⟩*) [*⟨width⟩*] [*⟨pos⟩*] {*⟨text⟩*}

```

13028 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

13029 \begin{LWR@setvirtualpage}%
13030 \def\LWR@temptwo{%
13031 \IfValueTF{#1}%
13032 {% (width,height) ..
13033 \LWR@makebox@paren #1%
13034 \IfValueT{#2}%
13035 {% (width,height) [posn]
13036 \LWR@makebox@align{#2}%
13037 }%
13038 }%
13039 {% [width]
13040 \IfValueT{#2}% [width]
13041 {%
13042 \setlength{\LWR@tempwidth}{#2}%
13043 \ifdimgreater{\LWR@tempwidth}{0pt}{%
13044 \appto{\LWR@temptwo}{%
13045 width:\LWR@printlength{\LWR@tempwidth} ; % space
13046 }%
13047 }{%
13048 }%
13049 }%
13050 \IfValueT{#3}%
13051 {% [width] [posn]
13052 \LWR@makebox@align{#3}%
13053 }%
13054 \InlineClass[%
13055 \LWR@print@ebox{display:inline-block} ; %
13056 \LWR@temptwo
13057 ]%
13058 {makebox}%
13059 {#4}%
13060 \end{LWR@setvirtualpage}%
13061 }
13062 \LWR@formatted{makebox}

```

`\framebox` (*<width,height>*) [*<width>*] [*<pos>*] {*<text>*}

```

13063 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
13064 \fbox{makebox(#1)[#2][#3]{#4}}%
13065 }
13066
13067 \LWR@formatted{framebox}

```

`\LWR@forceminwidth` {*<legth>*}

Sets `\LWR@atleastonept` to be at least 1pt.

```

13068 \newlength{\LWR@atleastonept}
13069
13070 \newcommand*{\LWR@forceminwidth}[1]{%
13071 \setlength{\LWR@atleastonept}{#1}%
13072 \ifthenelse{%
13073 \lengthtest{\LWR@atleastonept>0pt}\AND%
13074 \lengthtest{\LWR@atleastonept<1pt}%
13075 }%
13076 {\setlength{\LWR@atleastonept}{1pt}}%
13077 }%

```

13078 }

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
13079 \newcommand*\LWR@fboxstyle}{%
13080 \LWR@findcurrenttextcolor%
13081 \LWR@traceinfo{\LWR@fboxstyle B}%
13082 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13083 padding:\LWR@printlength{\fboxsep} ; %
13084 color:\LWR@origpound\LWR@tempcolor%
13085 }
```

`\fbox`  $\langle text \rangle$

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```
13086 \newcommand{\LWR@HTML@fbox}[1]{%
13087   \LWR@traceinfo{HTML fbox}%
13088   \LWR@forceminwidth{\fboxrule}%
13089   \LWR@traceinfo{HTML fbox B}%
13090   \InlineClass[%
13091     \LWR@print@mbbox{display:inline-block} ; %
13092     \LWR@fboxstyle%
13093   ]{fbox}{#1}%
13094   \LWR@traceinfo{HTML fbox: done}%
13095 }
```

`xcolor` lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
13096 \AtBeginDocument{\LWR@formatted{fbox}}
```

`\fboxBlock`  $\langle text \rangle$  Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:**

```
13097 \end{warpHTML}
13098
13099 \begin{warpall}
13100 \let\fboxBlock\fbox
13101 \end{warpall}
13102
13103 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
13104 \newcommand{\LWR@HTML@fboxBlock}[1]{%
13105   \LWR@forceminwidth{\fboxrule}%
13106   \LWR@stoppars%
13107   \begin{BlockClass}[\LWR@fboxstyle]{fboxBlock}
13108   #1
13109   \end{BlockClass}
13110   \LWR@startpars%
```



```

13111 }
13112
13113 \LWR@formatted{fboxBlock}
13114
13115 \end{warpHTML}

```

Env `fminipage` [*align*] [*height*] [*align*] [*width*]

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```

13116 \begin{warpall}
13117
13118 \newsavebox{\LWR@fminipagebox}
13119
13120 \NewDocumentEnvironment{fminipage}{0{t} o 0{t} m}
13121 {%

```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```

13122 \IfValueTF{#3}%
13123 {\def\LWR@thisalign{#3}}
13124 {\def\LWR@thisalign{#1}}%

```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```

13125 \IfValueTF{#2}%
13126 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
13127 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%

```

Capture the contents of the environment:

```

13128 \begin{lrbox}{\LWR@fminipagebox}%

```

Nest the contents inside an inner minipage of the desired size:

```

13129 \IfValueTF{#2}%
13130 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13131 {\minipage[#1]{#4}}%
13132 }
13133 {%

```

Close the inner minipage and the LR box with the contents:

```

13134 \endminipage%
13135 \end{lrbox}%

```

Create a frame around the contents of the environment:

```

13136 \fbox{\usebox{\LWR@fminipagebox}}%

```

The entire thing is placed inside the outer minipage:

```
13137 \endminipage%
13138 }
13139 \end{warpall}
```

HTML version:

**for HTML output:**

```
13140 \begin{warpHTML}
13141
13142 \NewDocumentEnvironment{LWR@HTML@fminipage}{O{t} o O{t} m}
13143 {%
13144 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
13145 \begin{LWR@setvirtualpage}*%
13146 \setlength{\LWR@tempwidth}{#4}%
13147 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
13148 \LWR@forceminwidth{\fboxrule}%

13149 \LWR@stoppars%

13150 \begin{BlockClass}[%
13151 \LWR@fboxstyle ; %
13152 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
13153 \ifbool{LWR@minipagefullwidth}%
13154 {\global\boolfalse{LWR@minipagefullwidth}}%
13155 {%
13156   \ifbool{LWR@forceminipagefullwidth}%
13157     {}%
13158     {%
13159       \ifdimequal{\LWR@tempwidth}{\linewidth}%
13160         {}%
13161         {width:\LWR@printlength{\LWR@tempwidth} ; }%
13162     }%
13163 }%
13164 ]{fminipage}%
13165 }
13166 {%
13167 \end{BlockClass}%
13168 \end{LWR@setvirtualpage}%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
13169 \global\booltrue{LWR@minipagethispar}%
13170 \LWR@traceinfo{fminipage done}%
13171 }
13172
13173 \LWR@formattedenv{fminipage}
```

`\raisebox`  $\langle \textit{raiselen} \rangle$   $[\langle \textit{height} \rangle]$   $[\langle \textit{depth} \rangle]$   $\langle \textit{text} \rangle$

```
13174 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13175 #4%
```

```

13176 }
13177
13178 \LWR@formatted{raisebox}

13179 \end{warpHTML}

```

## 95 Direct formatting

⚠ **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

**verbatim** The various verbatim-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 52.10.

**for HTML & PRINT:** 13180 `\begin{warpall}`

Bool `FixSmallCaps`

User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```

13181 \newbool{FixSmallCaps}
13182 \boolfalse{FixSmallCaps}

13183 \end{warpall}

```

**for HTML output:** 13184 `\begin{warpHTML}`

`\emph` `{\textit}`

```

13185 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13186     {%
13187         \LWR@HTML@itshape%
13188         \LWR@htmlspan{em}{#1}%
13189     }%
13190 }
13191
13192 \LWR@formatted{emph}

```

`\textmd` `{\textnormal}`

```

13193 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13194     {%
13195         \LWR@HTML@mdseries%
13196         \InlineClass(font-weight:normal){textmd}{#1}%
13197     }%

```

```
13198 }
13199
13200 \LWR@formatted{textmd}
```

`\textbf`  $\langle text \rangle$

```
13201 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13202   {%
13203     \LWR@HTML@bfseries%
13204     \LWR@htmlspan{b}{#1}%
13205   }%
13206 }
13207
13208 \LWR@formatted{textbf}
```

`\texteb`  $\langle text \rangle$  From `nfssect-cfr`.

```
13209 \IfPackageLoadedTF{nfssect-cfr}{
13210 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13211   {%
13212     \LWR@HTML@ebweight%
13213     \InlineClass{texteb}{#1}%
13214   }%
13215 }
13216
13217 \LWR@formatted{texteb}
13218 }{% if not loaded
13219   \providerobustcmd{\texteb}[1]{
13220 }
```

`\textlg`  $\langle text \rangle$  From `nfssect-cfr`.

```
13221 \IfPackageLoadedTF{nfssect-cfr}{
13222 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13223   {%
13224     \LWR@HTML@lgweight%
13225     \InlineClass{textlg}{#1}%
13226   }%
13227 }
13228
13229 \LWR@formatted{textlg}
13230 }{% if not loaded
13231   \providerobustcmd{\textlg}[1]{
13232 }
```

`\textrm`  $\langle text \rangle$

```
13233 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13234   {%
13235     \LWR@HTML@rmfamily%
13236     \InlineClass(font-family:serif){textrm}{#1}%
13237   }%
13238 }
13239
13240 \LWR@formatted{textrm}
```

`\textsf`  $\{\langle text \rangle\}$

```
13241 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13242   {%
13243     \LWR@HTML@sffamily%
13244     \InlineClass(font-family:sans){textsf}{#1}%
13245   }%
13246 }
13247
13248 \LWR@formatted{textsf}
```

`\texttt`  $\{\langle text \rangle\}$

```
13249 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13250   {%
13251     \LWR@HTML@ttfamily%
13252     \LWR@htmlspan{kbd}{#1}%
13253   }%
13254 }
13255
13256 \LWR@formatted{texttt}
```

`\textup`  $\{\langle text \rangle\}$

```
13257 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13258   {%
13259     \LWR@HTML@upshape%
13260     \InlineClass(font-style:normal){textup}{#1}%
13261   }%
13262 }
13263
13264 \LWR@formatted{textup}
```

`\textit`  $\{\langle text \rangle\}$

```
13265 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13266   {%
13267     \LWR@HTML@itshape%
13268     \LWR@htmlspan{i}{#1}%
13269   }%
13270 }
13271
13272 \LWR@formatted{textit}
```

`\textsc`  $\{\langle text \rangle\}$

```
13273 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13274   {%
13275     \LWR@HTML@scshape%
13276     \InlineClass{textsc}{#1}%
13277   }%
13278 }
13279
13280 \LWR@formatted{textsc}
```

`\textulc`  $\{\langle text \rangle\}$  From fontaxes.

```

13281 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13282   {%
13283     \LWR@HTML@ulcshape%
13284     \InlineClass{textulc}{#1}%
13285   }%
13286 }
13287
13288 \LWR@formatted{textulc}

```

`\textsi` {<*text*>}

```

13289 \@ifundefined{textsi}{
13290   \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
13291 }{}
13292
13293 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13294   {%
13295     \LWR@HTML@esishape%
13296     \textsc{\textit{#1}}%
13297     \InlineClass(
13298       font-style: italic;
13299       font-variant: small-caps ;
13300       font-variant-numeric: oldstyle-nums ;
13301     ){textsi}{#1}%
13302   }%
13303 }
13304
13305 \LWR@formatted{textsi}

```

`\textsl` {<*text*>}

```

13306 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13307   {%
13308     \slshape%
13309     \InlineClass(font-style:oblique){textsl}{#1}%
13310   }%
13311 }
13312
13313 \LWR@formatted{textsl}

```

`\textssc` {<*text*>}

```

13314 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13315 \LWR@formatted{textssc}

```

`\textnormal` {<*text*>}

```

13316 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13317   \LWR@HTML@mdseries%
13318   \LWR@HTML@rmfamily%
13319   \LWR@HTML@upshape%
13320   \LWR@HTML@ulcshape%
13321   \InlineClass(%
13322     font-weight: normal;
13323     font-family: serif;
13324     font-style: normal;
13325     font-variant: normal;

```

```

13326         font-variant-numeric: normal ;
13327     ){textnormal}{#1}%
13328 }
13329
13330 \LWR@formatted{textnormal}

13331 \FilenameNullify{%
13332     \LetLtxMacro\emph\@firstofone%
13333     \LetLtxMacro\textmd\@firstofone%
13334     \LetLtxMacro\textbf\@firstofone%
13335     \LetLtxMacro\texteb\@firstofone%
13336     \LetLtxMacro\textlg\@firstofone%
13337     \LetLtxMacro\textrm\@firstofone%
13338     \LetLtxMacro\textsf\@firstofone%
13339     \LetLtxMacro\texttt\@firstofone%
13340     \LetLtxMacro\textup\@firstofone%
13341     \LetLtxMacro\textit\@firstofone%
13342     \LetLtxMacro\textsc\@firstofone%
13343     \LetLtxMacro\textulc\@firstofone%
13344     \LetLtxMacro\textsi\@firstofone%
13345     \LetLtxMacro\textsl\@firstofone%
13346     \LetLtxMacro\textssc\@firstofone%
13347     \LetLtxMacro\textnormal\@firstofone%
13348 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

13349 \newcommand*\LWR@f@family}{rm}
13350 \newcommand*\LWR@f@series}{md}
13351 \newcommand*\LWR@f@shape}{up}
13352 \newcommand*\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont` {<*text*>}

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13353 \newcounter{LWR@textcurrentfontdepth}
13354 \setcounter{LWR@textcurrentfontdepth}{0}
13355
13356 \newcommand*\LWR@textcurrentfont}[1]{%
13357     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13358     {%
13359         \addtocounter{LWR@textcurrentfontdepth}{1}%
13360         #1%
13361         \addtocounter{LWR@textcurrentfontdepth}{-1}%
13362     }%
13363     {%
13364         \addtocounter{LWR@textcurrentfontdepth}{1}%
13365         \ifboolexpr{%
13366             test {\ifdefstring{\LWR@f@family}{rm}} and
13367             test {\ifdefstring{\LWR@f@series}{md}} and
13368             test {\ifdefstring{\LWR@f@shape}{up}} and
13369             test {\ifdefstring{\LWR@f@shapecaps}{ulc}}
13370         }%
13371         {\InlineClass{textnormal}{#1}}%
13372         {%
13373             \InlineClass{%

```

```

13374             text\LWR@family\LWR@origtilde{}%
13375             text\LWR@series\LWR@origtilde{}%
13376             text\LWR@shape\LWR@origtilde{}%
13377             text\LWR@shapecaps%
13378             }%
13379             {#1}%
13380             }%
13381             \addtocounter{LWR@textcurrentfontdepth}{-1}%
13382             }%
13383 }

```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```

13384 \newenvironment*{LWR@blocktextcurrentfont}{%
13385 \LWR@stoppars%
13386 \BlockClass{%
13387     text\LWR@family\LWR@origtilde{}%
13388     text\LWR@series\LWR@origtilde{}%
13389     text\LWR@shape\LWR@origtilde{}%
13390     text\LWR@shapecaps%
13391     }%
13392 }{\endBlockClass\LWR@startpars}

```

#### \mdseries

```

13393 \newrobustcmd*{\LWR@HTML@mdseries}{%
13394     \LWR@print@mdseries%
13395     \renewcommand*{\LWR@f@series}{md}%
13396 }
13397 \LWR@formatted{mdseries}

```

#### \bfseries

```

13398 \newrobustcmd*{\LWR@HTML@bfseries}{%
13399     \LWR@print@bfseries%
13400     \renewcommand*{\LWR@f@series}{bf}%
13401 }
13402 \LWR@formatted{bfseries}

```

#### \ebweight From nfssect-cfr.

```

13403 \IfPackageLoadedTF{nfssect-cfr}{
13404 \newrobustcmd*{\LWR@HTML@ebweight}{%
13405     \LWR@print@ebweight%
13406     \renewcommand*{\LWR@f@series}{eb}%
13407 }
13408 \LWR@formatted{ebweight}
13409 }{}

```

#### \lgweight From nfssect-cfr.

```

13410 \IfPackageLoadedTF{nfssect-cfr}{
13411 \newrobustcmd*{\LWR@HTML@lgweight}{%
13412     \LWR@print@lgweight%
13413     \renewcommand*{\LWR@f@series}{lg}%

```



```

13414 }
13415 \LWR@formatted{lgweight}
13416 }{}

```

`\rmfamily`

```

13417 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13418   \LWR@print@rmfamily%
13419   \renewcommand*{\LWR@f@family}{rm}%
13420 }
13421 \LWR@formatted{rmfamily}

```

`\sffamily`

```

13422 \newrobustcmd*{\LWR@HTML@sffamily}{%
13423   \LWR@print@sffamily%
13424   \renewcommand*{\LWR@f@family}{sf}%
13425 }
13426 \LWR@formatted{sffamily}

```

`\ttfamily`

```

13427 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13428   \LWR@print@ttfamily%
13429   \renewcommand*{\LWR@f@family}{tt}%
13430 }
13431 \LWR@formatted{ttfamily}

```

The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```

13432 \newrobustcmd*{\LWR@HTML@upshape}{%
13433   \LWR@print@upshape%
13434   \renewcommand*{\LWR@f@shape}{up}%
13435 }
13436 \AtBeginDocument{\LWR@formatted{upshape}}

```

`\itshape`

```

13437 \newrobustcmd*{\LWR@HTML@itshape}{%
13438   \LWR@print@itshape%
13439   \renewcommand*{\LWR@f@shape}{it}%
13440 }
13441 \AtBeginDocument{\LWR@formatted{itshape}}

```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```

13442 \newrobustcmd*{\LWR@HTML@scshape}{%
13443   \ifbool{FixSmallCaps}{}%
13444   \LWR@print@scshape%
13445 }%

```

```

13446 \renewcommand*\LWR@f@shapecaps}{sc}%
13447 }
13448 \AtBeginDocument{\LWR@formatted{scshape}}

```

### \ulcshape From fontaxes.

```

13449 \@ifundefined{ulcshape}{
13450 \LetLtxMacro\ulcshape\upshape
13451 }{}
13452 \newrobustcmd*\LWR@HTML@ulcshape}{%
13453 \LWR@print@ulcshape%
13454 \renewcommand*\LWR@f@shapecaps}{ulc}%
13455 }
13456 \AtBeginDocument{\LWR@formatted{ulcshape}}

```

### \sishape

```

13457 \@ifundefined{sishape}{
13458 \LetLtxMacro\sishape\scshape
13459 }{}
13460 \newrobustcmd*\LWR@HTML@sishape}{%
13461 \ifbool{FixSmallCaps}}{%
13462 \LWR@print@sishape%
13463 }%
13464 \renewcommand*\LWR@f@shape}{it}
13465 \renewcommand*\LWR@f@shapecaps}{sc}%
13466 }
13467 \AtBeginDocument{\LWR@formatted{sishape}}

```

### \slshape

```

13468 \newrobustcmd*\LWR@HTML@slshape}{%
13469 \LWR@print@slshape%
13470 \renewcommand*\LWR@f@shape}{sl}%
13471 }
13472 \AtBeginDocument{\LWR@formatted{slshape}}

```

### \sscshape

```

13473 \newrobustcmd*\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13474 \AtBeginDocument{\LWR@formatted{sscshape}}

```

### \normalfont

```

13475 \newrobustcmd*\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13476 \LWR@formatted{normalfont}

13477 \FilenameNullify{%
13478 \LetLtxMacro\rmfamily\@empty%
13479 \LetLtxMacro\sffamily\@empty%
13480 \LetLtxMacro\ttfamily\@empty%
13481 \LetLtxMacro\bfseries\@empty%
13482 \LetLtxMacro\ebweight\@empty%
13483 \LetLtxMacro\lgweight\@empty%
13484 \LetLtxMacro\mdseries\@empty%
13485 \LetLtxMacro\upshape\@empty%

```

```

13486 \LetLtxMacro\slshape\@empty%
13487 \LetLtxMacro\sisshape\@empty%
13488 \LetLtxMacro\scshape\@empty%
13489 \LetLtxMacro\itshape\@empty%
13490 \LetLtxMacro\ulcshape\@empty%
13491 \LetLtxMacro\sscshape\@empty%
13492 \LetLtxMacro\normalfont\@empty%
13493 }

```

`\sp`  $\langle text \rangle$

For siunitx. Must work in math mode.

```
13494 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}}
```

`\sb`  $\langle text \rangle$

For siunitx. Must work in math mode.

```
13495 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}}
```

`\textsuperscript`  $\langle text \rangle$

```

13496 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13497 \LWR@formatted{textsuperscript}

```

`\@textsuperscript`  $\langle text \rangle$

```

13498 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13499 \LWR@formatted{@textsuperscript}

```

`\textsubscript`  $\langle text \rangle$

```

13500 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13501 \LWR@formatted{textsubscript}

```

`\@textsubscript`  $\langle text \rangle$

```

13502 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13503 \LWR@formatted{@textsubscript}

```

`\up`  $\langle text \rangle$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13504 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\langle text \rangle$  Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13505 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\{\langle text \rangle\}$

```
13506 \renewcommand{\underline}[1]{%
13507   \InlineClass%
13508     (text-decoration:underline; text-decoration-skip: auto)%
13509     {\underline}{#1}%
13510 }
```

`\LWR@overline`  $\{\langle text \rangle\}$

```
13511 \newcommand{\LWR@overline}[1]{%
13512   \InlineClass%
13513     (text-decoration:overline; text-decoration-skip: auto)%
13514     {\overline}{#1}%
13515 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
13516 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.

`\LWR@tempcolortwo`

```
\LWR@tempcolorthree 13517 \newcommand*{\LWR@tempcolor}{}
13518 \newcommand*{\LWR@tempcolortwo}{}
13519 \newcommand*{\LWR@tempcolorthree}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
13520 \newcommand*{\LWR@findcurrenttextcolor}{}%
13521   \renewcommand{\LWR@tempcolor}{000000}%
13522 }
```

`\LWR@textcurrentcolor`  $\{\langle text \rangle\}$  Like `\textcolor` but uses the current `\color` instead.

```
13523 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13524   \renewcommand*{\LWR@currenttextcolor}{black}%
13525   #1%
13526 }
```

```
13527 \end{warppHTML}
```

**for PRINT output:** 13528 `\begin{warpprint}`

`\LWR@textcurrentfont`  $\{\langle text \rangle\}$

Prints the text with the current font choices.

```
13529 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env `\LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
13530 \newenvironment*{\LWR@blocktextcurrentfont}{}{}
```

\FilenameNullify {*<macros to nullify>*}

```
13531 \newcommand*\FilenameNullify[1]{}

```

```
13532 \end{warpprint}

```

## 96 Skips, spaces, font sizes

**for HTML output:** 13533 \begin{warppHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
13534 \AtBeginDocument{%
13535 \renewrobustcmd*\,}{\HTMLUnicode{202f}}% HTML thin non-breakable space, not using LWR@formatted
13536 \newrobustcmd*\LWR@HTML@thinspace}{\HTMLUnicode{202f}}% HTML thin non-breakable space
13537 \LWR@formatted{thinspace}
13538 \newrobustcmd*\LWR@HTML@negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13539 \LWR@formatted{negthinspace}
13540 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% cannot use \LWR@formatted
13541 \newrobustcmd*\LWR@HTML@textellipsis}{\HTMLUnicode{2026}}
13542 \LWR@formatted{textellipsis}
13543 \newrobustcmd*\LWR@HTML@vdots}{\HTMLUnicode{22EE}}
13544 \LWR@formatted{vdots}
13545 }
```

Direct-formatting font sizes are remembered for future use:

```
13546 \newcommand*\LWR@font@size}{normalsize}
13547
13548 \newrobustcmd*\LWR@HTML@normalsize}{\renewcommand*\LWR@font@size}{normalsize}}
13549 \LWR@formatted{normalsize}
13550
13551 \newrobustcmd*\LWR@HTML@small}{\renewcommand*\LWR@font@size}{small}}
13552 \LWR@formatted{small}
13553
13554 \newrobustcmd*\LWR@HTML@footnotesize}{\renewcommand*\LWR@font@size}{footnotesize}}
13555 \LWR@formatted{footnotesize}
13556
13557 \newrobustcmd*\LWR@HTML@scriptsize}{\renewcommand*\LWR@font@size}{scriptsize}}
13558 \LWR@formatted{scriptsize}
13559
13560 \newrobustcmd*\LWR@HTML@tiny}{\renewcommand*\LWR@font@size}{tiny}}
13561 \LWR@formatted{tiny}
13562
13563 \newrobustcmd*\LWR@HTML@large}{\renewcommand*\LWR@font@size}{large}}
13564 \LWR@formatted{large}
13565
13566 \newrobustcmd*\LWR@HTML@Large}{\renewcommand*\LWR@font@size}{Large}}
13567 \LWR@formatted{Large}
13568
13569 \newrobustcmd*\LWR@HTML@LARGE}{\renewcommand*\LWR@font@size}{LARGE}}
13570 \LWR@formatted{LARGE}
13571
```

```

13572 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13573 \LWR@formatted{huge}
13574
13575 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13576 \LWR@formatted{Huge}

```

```

13577 \DeclareDocumentCommand{\onecolumn}{}{}
13578
13579 \DeclareDocumentCommand{\twocolumn}{0}{}{
13580
13581 #1
13582
13583 }

```

### \hfill

```

13584 \newcommand*{\LWR@HTML@hfill}{\quad}
13585 \LWR@formatted{hfill}

```

### \hrulefill

```

13586 \newcommand*{\LWR@HTML@hrulefill}{%
13587   \ifbool{\LWR@doingapar}%
13588     {\rule{1in}{1pt}}%
13589     {%
13590       \LWR@findcurrenttextcolor%
13591       \ifdefstring{\LWR@tempcolor}{000000}%
13592         {%
13593           \begin{BlockClass}{hrule}%
13594             \end{BlockClass}%
13595         }%
13596         {%
13597           \begin{BlockClass}[%
13598             border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13599           ]{hrule}%
13600           \end{BlockClass}%
13601         }%
13602     }%
13603 }%
13604 \LWR@formatted{hrulefill}

```

### \dotfill

```

13605 \newcommand*{\LWR@HTML@dotfill}{\dots}
13606 \LWR@formatted{dotfill}

```

### \newpage

```

13607 \renewcommand*{\newpage}{
13608
13609 }

```

### \newline Uses the HTML <br /> element.

```

13610 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13611 \LetLtxMacro\newline\LWR@newlinebr

```

\

Redefined to `\LWR@endofline` or `\LWR@tabularendofline`.

`\LWR@endofline` \* [*len*]

`\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```
13612 \LetLtxMacro\LWR@origendofline\
13613 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
13614 {%
13615 \newline%

13616 \setlength{\LWR@templengthone}{#2}%
13617 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13618 }
```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qquad` until the end of the paragraph, when the closing `p` tag is created.

`\hspace`  
`\enskip`  
`\quad`  
`\qquad`

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13619 \newcommand*{\LWR@minipagestartpars}{%
13620   \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
13621 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13622 \newcommand*{\LWR@minipagestoppars}{%
13623   \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
13624 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
13625 \newrobustcmd*{\LWR@HTML@quad}{%
13626   \LWR@minipagestoppars%
13627   \HTMLunicode{2003}%
13628   \LWR@minipagestartpars%
13629 }
13630 \LWR@formatted{quad}
```

`\qqad` Handles special minipage & horizontal space interactions.

```
13631 \newrobustcmd*{\LWR@HTML@qqad}{\quad\quad}
13632 \LWR@formatted{qqad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
13633 \newrobustcmd*{\LWR@HTML@enskip}{%
13634   \LWR@minipagestoppars%
13635   \HTMLUnicode{2002}%
13636   \LWR@minipagestartpars%
13637 }
13638 \LWR@formatted{enskip}
```

Len `\LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

Len `\LWR@tempheight`

```
13639 \newlength{\LWR@tempwidth}
```

Len `\LWR@tempraise`

```
13640 \newlength{\LWR@tempheight}
```

```
13641 \newlength{\LWR@tempraise}
```

`\hspace` \*  $\langle length \rangle$  \*  $\langle length \rangle$

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\qqad`.

```
13642 \NewDocumentCommand{\LWR@HTML@hspace}{s m}{%
13643 \setlength{\LWR@tempwidth}{#2}%
```

If `\fill`, change to `\qqad`:

```
13644 \ifnum\gluestretchorder\LWR@tempwidth>0%
13645 \setlength{\LWR@tempwidth}{2em}%
13646 \fi%
```

Only if the width is greater than zero:

```
13647 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13648   \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13649   \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13650   {%
13651     \HTMLUnicode{2009}% thin breakable space
13652   }%
```

Print the span with the converted width. Not rounded.

```
13653   {%
```



```

13654     \LWR@htmltagc{%
13655     span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13656         display:inline-block\textquotedbl%
13657     }%

```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

13658     \ifbool{FormatWP}{%
13659         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13660         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13661             \quad%
13662             \addtolength{\LWR@templengthone}{-1em}%
13663         }%
13664     }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

13665     {\LWR@htmlcomment{}}%

```

Close the span:

```

13666     \LWR@htmltagc{/span}%
13667     }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13668     \LWR@minipagestartpars%
13669 }{}% width greater than 0
13670 }%
13671 \LWR@formatted{hspace}

```

`\LWR@vspace` \* `{<length>}` Nullified vspace.

```

13672 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13673
13674 \LWR@formatted{vspace}

```

`\linebreak` [`<num>`] Inserts an HTML br tag.

```

13675 \renewcommand*{\linebreak}[1][\newline]

```

`\nolinebreak` [`<num>`]

```

13676 \renewcommand*{\nolinebreak}[1][\ ]

```

`\pagebreak` [`<num>`] Starts a new paragraph.

```

13677 \renewcommand*{\pagebreak}[1][\ ]
13678
13679 }

```

`\nopagebreak` [`<num>`]

```
13680 \renewcommand*\nopagebreak}[1][{}]
```

`\enlargethispage` \*  $\langle len \rangle$

```
13681 \RenewDocumentCommand{\enlargethispage}{s m}{} 
```

`\clearpage`  
`\cleardoublepage`

```
13682 \renewcommand*\clearpage{} 
```

```
13683 \renewcommand*\cleardoublepage{} 
```

`\rule` [ $\langle raise \rangle$ ]  $\langle width \rangle$   $\langle height \rangle$

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
13684 \newcommand*\LWR@HTML@rule}[3][{}]{%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13685 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
13686 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
```

```
13687 {}% zero- width
```

```
13688 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13689 \ifthenelse{%
13690 \lengthtest{\LWR@tempwidth>0pt}\AND%
13691 \lengthtest{\LWR@tempwidth<1pt}}%
13692 }%
13693 {\setlength{\LWR@tempwidth}{1pt}}%
13694 {}%
```

Likewise with height:

```
13695 \setlength{\LWR@tempheight}{#3}%
13696 \ifthenelse{%
13697 \lengthtest{\LWR@tempheight>0pt}\AND%
13698 \lengthtest{\LWR@tempheight<1pt}}%
13699 }%
13700 {\setlength{\LWR@tempheight}{1pt}}%
13701 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13702 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13703 \LWR@findcurrenttextcolor%
13704 \LWR@htmltagc{%
13705 span\LWR@indentHTML%
13706 style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
13707 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13708 width:\LWR@printlength{\LWR@tempwidth} ; %
13709 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
13710 \ifblank{#1}%
13711 {}%
13712 {%
13713 \setlength{\LWR@tempraise}{0pt-#1}%
13714 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13715 \LWR@indentHTML%
13716 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13717 \LWR@indentHTML%
13718 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13719 \LWR@indentHTML%
13720 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13721 \LWR@indentHTML%
13722 }%
```

Display inline-block to place the span inline with the text:

```
13723 display:inline-block;\textquotedbl\LWR@orignewline%
13724 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13725 \ifbool{FormatWP}{%
13726 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13727 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13728 \_{}%
13729 \addtolength{\LWR@templengthone}{-1em}%
13730 }%
13731 }%
```

If NOT formatting for a word processor, add a comment to avoid an empty `<span>`:

```
13732      {\LWR@htmlcomment{}}%
```

Close the span:

```
13733      \LWR@htmltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13734      \LWR@minipagestartpars%
```

```
13735 }% non-zero width
```

```
13736 }
```

```
13737
```

```
13738 \LWR@formatted{rule}
```

```
13739 \end{warpHTML}
```

## 97 \phantomsection

**for HTML output:** 13740 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref \phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```
13741 \newrobustcmd*{\LWR@phantomsection}{%
```

```
13742   \begingroup%
```

```
13743   \boolfalse{LWR@forcinghtmltoc}%
```

```
13744   \section*{}}%
```

```
13745   \endgroup%
```

```
13746 }
```

```
13747 \end{warpHTML}
```

## 98 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

**for HTML & PRINT:** 13748 \begin{warpall}

```
13749 \newbool{LWR@warnXe}
```

```
13750 \boolfalse{LWR@warnXe}
```

```
13751
```

```
13752 \newrobustcmd*{\Xe}
```

```
13753   {%
```

```

13754      X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13755      \global\booltrue{LWR@warnXe}%
13756    }
13757
13758 \AtBeginDocument{
13759   \IfPackageLoadedTF{graphics}{
13760     \IfPackageLoadedTF{metalogo}{}{
13761       \renewrobustcmd*{\Xe}
13762         {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
13763     }
13764   }{}
13765 }
13766
13767 \AtEndDocument{
13768   \ifbool{LWR@warnXe}{
13769     \PackageNoteNoLine[lwarp]{Load graphicx or graphics
13770       for improved XeTeX logo}
13771   }{}
13772 }
13773
13774 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13775 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13776 \providerobustcmd*{\AmS}{%
13777   \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13778     \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13779 }
13780 \newrobustcmd*{\LyX}{\textsf{LyX}}
13781 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13782 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13783 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13784 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13785 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
13786 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13787 \end{warpa}}

```

**for HTML output:** 13788 \begin{warpHTML}

The print-mode versions of the following may be changed by metalogo, so their print formatting is recorded \AtBeginDocument.

\TeX T<sub>E</sub>X

latexlogo is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X and friends.

latexlogofont is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, LuaT<sub>E</sub>X, ConT<sub>E</sub>Xt, etc.

```

13789 \newrobustcmd*{\LWR@HTML@TeX}
13790 {%
13791   \InlineClass{latexlogofont}%
13792   {%
13793     \InlineClass{latexlogo}%
13794     {%
13795       T%
13796       \InlineClass{latexlogosub}{e}%
13797       X%
13798     }%
13799   }%
13800 }

```

13801 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX  LATEX, LATEX 2ε
\LaTeXe
13802 \newrobustcmd*{\LWR@HTML@LaTeX}
13803 {%
13804   \InlineClass{latexlogofont}%
13805   {%
13806     \InlineClass{latexlogo}%
13807     {%
13808       L%
13809       \InlineClass{latexlogosup}{a}%
13810       T%
13811       \InlineClass{latexlogosub}{e}%
13812       X%
13813     }%
13814   }%
13815 }
13816
13817 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13818
13819
13820 \newrobustcmd*{\LWR@HTML@LaTeXe}
13821 {%
13822   \LaTeX%
13823   \InlineClass{latexlogofont}{%
13824     \InlineClass{latexlogotwoe}{%
13825       2%
13826       \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13827     }%
13828   }%
13829 }
13830 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

```

\LuaTeX  LuaATEX, LuaLATEX
\LuaLaTeX
13831 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13832 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13833
13834 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13835 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

```

\XeTeX  XELATEX, XELATEX
\XeLaTeX
xetexlogo is a css class which aligns the backwards E in XELATEX and spaces TEX
appropriately.

```

xelatexlogo is a css class which aligns the backwards E in X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and spaces L<sup>A</sup>T<sub>E</sub>X appropriately.

```

13836 \newrobustcmd*{\LWR@HTML@Xe}
13837   {%
13838     X%
13839     \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13840   }
13841 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13842
13843 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{Xe}\TeX}

```

```

13844 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13845
13846 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13847 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

### \ConTeXt ConTeXt

```

13848 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13849   \InlineClass{latexlogofont}{Con}\TeX}%
13850   \InlineClass{latexlogofont}{t}%
13851 }
13852 \LWR@formatted{ConTeXt}

```

### \BibTeX BibTeX, *MakeIndex*

#### \MakeIndex

```

13853 \newrobustcmd*{\LWR@HTML@BibTeX}
13854   {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
13855 \LWR@formatted{BibTeX}
13856
13857 \newrobustcmd*{\LWR@HTML@MakeIndex}
13858   {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13859 \LWR@formatted{MakeIndex}

```

### \AmS *AMS*

amslogo is a css class used for the *AMS* logo.

```

13860 \AtBeginDocument{%
13861 \newrobustcmd*{\LWR@HTML@AmS}
13862 {%
13863   \InlineClass{amslogo}{%
13864     \textit{%
13865       A%
13866       \InlineClass{latexlogosub}{M}%
13867       S%
13868     }}%
13869   }%
13870 }%
13871 \LWR@formatted{AmS}
13872 }

```

### \MiKTeX MiKTeX

```

13873 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13874 \LWR@formatted{MiKTeX}

```

### \LyX LyX

lyxlogo is a css class used for the *LyX* logo.

```

13875 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13876 \LWR@formatted{LyX}

13877 \end{warpHTML}

```

## 99 Starting and stopping lwarp

**for HTML output:** 13878 `\begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.  
`\LWR@LwarpEnd`     ment.

```
13879 \AfterEndPreamble{\LWR@LwarpStart}
13880 \AtEndDocument{\LWR@LwarpEnd}
13881 \DeclareHookRule{enddocument}{lwarp}{after}{legacy}

13882 \end{warpHTML}
```

## 100 Loading array

`array` is required for `lwarp`'s column parsing. It and its patches are now loaded.

**for HTML output:** 13883 `\begin{warpHTML}`  
 13884 `\RequirePackage{array}`

The following are compared with the tabular preamble > to add CSS classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after `array` is loaded.

```
13885 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
13886 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
13887 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
13888 \def\LWR@detect@itshape{\itshape}
13889 \def\LWR@detect@bfseries{\bfseries}
13890 \def\LWR@detect@bfit{\bfseries\itshape}
13891 \end{warpHTML}
```

## 101 Loading everyshi patches

`everyshi` is emulated by the  $\LaTeX$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of  $\LaTeX$  is used.

**for HTML output:** 13892 `\begin{warpHTML}`  
 13893 `\AtBeginDocument{`  
 13894     `\IfPackageLoadedTF{everyshi}{`  
 13895         `\RequirePackage{lwarp-everyshi}`  
 13896     `}}`  
 13897 `}`  
 13898 `\end{warpHTML}`

## 102 Loading textcomp patches

`textcomp` has now been integrated into the  $\LaTeX$  core, so its patches are loaded now.



**for HTML output:** 13899 \begin{warpHTML}  
 13900 \RequirePackage{lwarp-textcomp}  
 13901 \end{warpHTML}

## 103 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

**for HTML output:** 13902 \begin{warpHTML}  
 13903 \IfPackageLoadedTF{amsthm}{  
 13904     \RequirePackage{lwarp-amsthm}  
 13905 }{  
  
 13906 \IfPackageLoadedTF{amsmath}{  
 13907     \RequirePackage{lwarp-amsmath}  
 13908 }{}

amsthm may load centernot, so centernot must be checked second.

13909 \IfPackageLoadedTF{centernot}{  
 13910     \RequirePackage{lwarp-centernot}  
 13911 }{  
 13912 \end{warpHTML}

## 104 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:** 13913 \begin{warpHTML}  
  
 13914 \IfClassLoadedTF{scrbook}{\RequirePackage{lwarp-patch-komascript}}{  
 13915 \IfClassLoadedTF{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{  
 13916 \IfClassLoadedTF{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{  
  
 13917 \end{warpHTML}

## 105 Loading MEMOIR class patches

Load patches to memoir.

**for PRINT output:** 13918 \begin{warpprint}  
 13919 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{  
 13920 \end{warpprint}

**for HTML output:** 13921 \begin{warpHTML}  
 13922 \IfClassLoadedTF{memoir}{\RequirePackage{lwarp-patch-memoir}}{  
 13923 \end{warpHTML}

## 106 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:** 13924 \begin{warpHTML}

```
13925 \newcommand*\LWR@patchujtclasses}{
```

uj/t does not use \partname

```
13926   \def\@partnameformat{}

13927   \def\@partcntformat##1{%
13928     \prepartname%
13929     \csname the##1\endcsname%
13930     \postpartname%
13931     \quad%
13932   }
13933   \@ifundefined{chapter}{}{
13934     \def\@chapcntformat##1{%
13935       \prechaptername%
13936       \csname the##1\endcsname%
13937       \postchaptername%
13938       \quad%
13939     }
13940   }
13941   \renewcommand*\LWR@printchaptername}{}
```

Use decimal points instead of centered dots:

```
13942   \renewcommand{\thepart}{\@Roman\c@part}
13943   \@ifundefined{chapter}{
13944     \renewcommand{\thesection}{\@arabic\c@section}
13945   }{
13946     \renewcommand{\thechapter}{\@arabic\c@chapter}
13947     \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13948   }
13949   \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13950   \renewcommand{\thesubsubsection}{%
13951     \thesubsection.\@arabic\c@subsubsection}
13952   \renewcommand{\theparagraph}{%
13953     \thesubsubsection.\@arabic\c@paragraph}
13954   \renewcommand{\thesubparagraph}{%
13955     \theparagraph.\@arabic\c@subparagraph}
13956   \@ifundefined{chapter}{
13957     \renewcommand{\thefigure}{\@arabic\c@figure}
13958     \renewcommand{\thetable}{\@arabic\c@table}
13959   }{
13960     \renewcommand{\thefigure}{%
13961       \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13962     \renewcommand{\thetable}{%
13963       \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13964   }
13965 }
13966
13967 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{}
13968 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{}
13969 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{}
```

```

13970 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{}
13971 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{}
13972 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{}
13973 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{}
13974 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{}
13975 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{}
13976 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{}
13977 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{}
13978 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{}
13979 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{}
13980 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{}
13981 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{}
13982 \IfClassLoadedTF{ltjtbook}{\LWR@patchujtclasses}{}
13983 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{}

13984 \end{warpHTML}

```

## 107 CTEX patches

Patches for ctex and related classes, which are loaded before lwarp.

All CTEX classes and the ctex package seem to load ctexpatch, so its presence is used to decide whether to have lwarp patch CTEX.

**for HTML output:** 13985 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13986 \AtBeginDocument{
13987   \IfPackageLoadedTF{ctexpatch}{%
13988     \def\@partcntformat#1{%
13989       \LWR@isolate{\CTEX@partname}~%
13990       \CTEX@part@aftername%
13991     }%
13992
13993     \def\@partnameformat{}
13994
13995     \def\@chapcntformat#1{%
13996       \LWR@isolate{\CTEX@chaptername}~%
13997       \CTEX@chapter@aftername%
13998     }%
13999
14000     \renewcommand*{\LWR@printchaptername}{}
14001   }{}
14002 }

14003 \end{warpHTML}

```

## 108 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's \@setref was conflicting with lwarp's cross references.

**for HTML output:** 14004 \begin{warpHTML}

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

14005 \AtBeginDocument{
14006 \IfPackageLoadedTF{kotexutf}{%
14007   \def\LWR@kotexutf@setref#1#2#3{%
14008     \@setref@dhuks@orig{#1}{#2}{#3}%
14009     \ifx#1\relax\else
14010       \bgroup
14011       \dhuks@make@CJKchar@null
14012       \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
14013       \egroup
14014     \fi%
14015   }%
14016
14017   \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
14018     \let\@setref\@setref@dhuks@orig
14019   }{}
14020 }{}
14021 }

14022 \end{warpHTML}

```

## 109 babel and polyglossia warnings

`lwarp` prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

`lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output: 14023 \begin{warpHTML}
14024 \AtBeginDocument{
14025
14026 \IfPackageLoadedTF{polyglossia}{
14027   \PackageNoteNoLine{lwarp}
14028   {%
14029     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
14030     See the cleveref documentation regarding\MessageBreak
14031     polyglossia support. Some languages are not supported.\MessageBreak

```

```

14032     --- \MessageBreak
14033     If the error\MessageBreak
14034     \space\space Undefined control sequence ...
14035     \protect\__hook begindocument\MessageBreak
14036     occurs here, use the polyglossia macro:\MessageBreak
14037     \space\space\protect\setmainlanguage\protect{...\protect}
14038   }
14039 }{
14040   \IfPackageLoadedTF{babel}{
14041     \PackageNoteNoLine{lwarp}
14042     {%
14043       Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
14044       See the cleveref documentation regarding\MessageBreak
14045       babel support. Some languages are not supported%
14046     }
14047   }{ }
14048 }
14049
14050 }
14051 \end{warpHTML}

```

## 110 MATHJAX warnings

`\LWR@mathjaxwarn` {<*packagename*>} {<*More text.*>}

Issue a warning that MATHJAX is emulated. To be done `\AtBeginDocument`.

```

14052 \newcommand*\LWR@mathjaxwarn}[2]{%
14053   \IfPackageLoadedTF{lwarp-#1}{%
14054     \ifblank{#2}{%
14055       \PackageWarningNoLine{lwarp}
14056       {%
14057         Lwarp provides emulation for MathJax when used\MessageBreak
14058         with the #1 package%
14059       }
14060     }{%
14061       \PackageWarningNoLine{lwarp}
14062       {%
14063         Lwarp provides emulation for MathJax when used\MessageBreak
14064         with the #1 package.\MessageBreak
14065         #2%
14066       }
14067     }%
14068   }{ }%
14069 }
14070
14071 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
14072 %
14073 % Issue a warning that \MathJax\ is not supported.
14074 % To be done \cs{AtBeginDocument}.
14075 %
14076 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}
14077 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}
14078 %   \begin{macrocode}
14079 \newcommand*\LWR@nomathjaxwarn}[2]{%
14080   \IfPackageLoadedTF{lwarp-#1}{%
14081     \ifblank{#2}{%

```

```

14082     \PackageWarningNoLine{lwarp}
14083     {%
14084     Lwarp does not provide MathJax support for #1.\MessageBreak
14085     Use SVG math by removing the Lwarp mathjax option%
14086     }
14087   }{%
14088     \PackageWarningNoLine{lwarp}
14089     {%
14090     Lwarp does not provide MathJax support for #1.\MessageBreak
14091     #2%
14092     }
14093   }%
14094 }{%
14095 }

```

`\LWR@forceSVGmessage`  $\langle\textit{packagename}\rangle$

```

14096 \newcommand*{\LWR@forceSVGmessage}[1]{%
14097   SVG math output may be enabled for select math\MessageBreak
14098   expressions to preserve #1 visual\MessageBreak
14099   features for those particular expressions.\MessageBreak
14100   Before the chosen inline math, use \protect\inlinemathother\MessageBreak
14101   to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14102   afterward to resume using MathJax math.\MessageBreak
14103   Before display math, use \protect\displaymathother\MessageBreak
14104   to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14105   after to resume using MathJax for the following math.\MessageBreak
14106   Or, use SVG math for all expressions by removing\MessageBreak
14107   the mathjax option for the lwarp package%
14108 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

14109 \AtBeginDocument{
14110   \ifbool{mathjax}{
14111     \LWR@nomathjaxwarn{aligned-overset}{}
14112     \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}
14113     \LWR@mathjaxwarn{arydshln}
14114     {In a math array, do not use the optional argument\MessageBreak
14115     for \protect\cdashline.\space\space
14116     Furthermore, \protect\cline\space is not\MessageBreak
14117     supported by MathJax}
14118     \LWR@nomathjaxwarn{autoalign}{}
14119     \LWR@mathjaxwarn{autonum}
14120     {MathJax does not support equation+.\MessageBreak
14121     You may use the warpprint and warpHTML\MessageBreak
14122     environments to isolate the package load\MessageBreak
14123     and the equation+ environments}
14124     \LWR@mathjaxwarn{bigdelim}
14125     {Delimiters appear only of the first line}
14126     \LWR@nomathjaxwarn{boldtensors}{}
14127     \LWR@mathjaxwarn{booktabs}
14128     {\protect\cmidrule\space is not displayed}
14129     \LWR@mathjaxwarn{breqn}
14130     {Each environment becomes an SVG image}
14131     \LWR@mathjaxwarn{colortbl}
14132     {Colors are ignored in MathJax.\MessageBreak
14133     (Text mode tabular does support colortbl.)\MessageBreak
14134     \LWR@forceSVGmessage{colortbl}}

```

```

14135 \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}
14136 \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}
14137 \LWR@mathjaxwarn{hhline}
14138 {A simple \protect\hline\space is used}
14139 \LWR@mathjaxwarn{isomath}
14140 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14141 do not use a sans font because MathJax does not yet\MessageBreak
14142 have sans Greek. Tensors may look like vectors%
14143 }
14144 \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}
14145 \LWR@mathjaxwarn{libertinust1math}
14146 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
14147 do not use a sans font because MathJax does not yet\MessageBreak
14148 have sans Greek. Tensors may look like vectors%
14149 }
14150 \LWR@mathjaxwarn{mathtools}
14151 {See the Lwarp manual regarding the disallowspace\MessageBreak
14152 and showonlyrefs options, the alignat environment,\MessageBreak
14153 and \protect\DeclarePairedDelimiter\space and related%
14154 }
14155 \LWR@mathjaxwarn{mathspec}
14156 {Double quotes are removed, even inside \protect\text}
14157 \LWR@mathjaxwarn{multirow}
14158 {Multirow works as expected in text mode, but\MessageBreak
14159 limited emulation is provided for MathJax math.\MessageBreak
14160 \protect\multirow\space ignores all arguments except\MessageBreak
14161 the text}
14162 \LWR@mathjaxwarn{nicematrix}
14163 {Keys/values are ignored in MathJax.\MessageBreak
14164 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14165 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14166 \protect\CodeBefore\space cannot be done with MathJax.\MessageBreak
14167 \LWR@forceSVGmessage{nicematrix}%
14168 }
14169 \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14170 % \LWR@mathjaxwarn{physics}
14171 % % {The third-party extension is not used.\MessageBreak
14172 % {The MathJax v3 extension is used.\MessageBreak
14173 % See the Lwarp manual for details}
14174 \LWR@mathjaxwarn{siunitx}
14175 {Place \protect\sisetup\space before \protect\begin{document}.\MessageBreak
14176 Many optional arguments are ignored}
14177 \LWR@nomathjaxwarn{tensind}{}
14178 \LWR@mathjaxwarn{unicode-math}
14179 {Do not use embedded Unicode characters.\MessageBreak
14180 (Not all characters are encoded correctly.)\MessageBreak
14181 Some symbol fonts are not supported by MathJax,\MessageBreak
14182 and are only approximated.\MessageBreak
14183 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
14184 option. Latin symbols does not, per MathJax\MessageBreak
14185 limitations, unless placed inside \protect\symbit\space or similar}
14186 \LWR@nomathjaxwarn{unitsdef}{}
14187 \LWR@mathjaxwarn{witharrows}
14188 {Arrows can only point to the next line.\MessageBreak
14189 Text is only placed on a single line}
14190 \LWR@nomathjaxwarn{xy}
14191 {In text, xy works as-is. SVG images will be generated.\MessageBreak
14192 \LWR@forceSVGmessage{xy}}
14193 }{}
14194 }

```

File 2 **lwarp-2in1.sty**§ 111 Package **2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}File 3 **lwarp-2up.sty**§ 112 Package **2up**

Pkg 2up 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupeemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

File 4 **lwarp-a4.sty**§ 113 Package **a4**

Pkg a4 a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]2 \newcommand\*{\WideMargins}{}  

---

File 5 **lwarp-a4wide.sty**§ 114 Package **a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]



File 6 **lwarp-a5comb.sty**§ 115 Package **a5comb**


Pkg a5comb a5comb is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{a5comb}`

File 7 **lwarp-abstract.sty**§ 116 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

Pkg abstract abstract is supported and patched by lwarp.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** memoir provides an abstract environment even though it is not an article or report class. Meanwhile, lwarp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for lwarp-abstract:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}
```

```
18 {
```

```
19 \renewenvironment{abstract}{%
```

```

20% % \titlepage
21% \null\vfil
22% \@beginparpenalty\@lowpenalty
23 \setup@bstract
24 \ifbsrunin
25 \else
26% \ifbsstyle
27% \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28% \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34% \endparpenalty\@M
35 \end\absnamepos%
36 \vspace{\abstitlekip}%
37 \fi
38% \fi
39% \vspace{\abstitlekip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\ifbsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
44 }
45}{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48% \titlepage
49 \null\vfil
50 \@beginparpenalty\@lowpenalty
51 \ifbsrunin
52 \else
53 \ifbsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 \endparpenalty\@M
62 \end\absnamepos%
63%% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\ifbsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \ifbsrunin
75 \else
76 \ifbsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs

```

```

80         \num@bs
81         \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %%         \vspace{\abstitleskip}%
86         \fi
87         \fi
88         \vspace{\abstitleskip}%
89         \fi
90         \put@bsintoc%
91         \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92         {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

File 8 **lwarp-academicons.sty**

§ 117 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg academicons

academicons is patched for use by lwarp.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7   \begin{lateximage}*[academicon][academicons#1]%
8   \begingroup%
9     \LWR@academicons@orig@AI%
10    \LWR@orig@symbol{#1}%
11    \endgroup%
12    \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16   \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21   \begin{lateximage}*[#1 icon][academicons#1]%
22   \AI\csname aiicon@#1\endcsname%
23   \end{lateximage}%
24 }

```

File 9 **lwarp-accents.sty**

§ 118 Package **accents**

(Emulates or patches code by JAVIER BEZOS.)

Pkg accents

accents is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \LWR@info{processingmathjax}{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}
```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```
7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20   {%
21     \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22     \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23     \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24     \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25     \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26     \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27     \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%
28     \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29     \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30     \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31     \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32     \underset{\raise 2pt {#1}}{#2}%
33     \let\grave\LWRgrave%
34     \let\acute\LWRacute%
35     \let\check\LWRcheck%
36     \let\breve\LWRbreve%
37     \let\bar\LWRbar%
```

```

38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 119 Package **accessibility**

Pkg accessibility

accessibility is emulated.

**for HTML output:**

Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

```

For MATHJAX:

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 120 Package **accsupp**

Pkg accsupp

accsupp is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}
7 \end{warpMathJax}


```

File 12 **lwarp-acro.sty**§ 121 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro

acro is patched for use by lwarp.

 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

`\DeclareAcronym` is used in the preamble, where `lwarp` has not yet made the dollar active, so temporarily enable `lwarp` math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5   \acro_declare_acronym:nn {#1} {#2}
6   \catcode'\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11   \catcode'\$=\active% lwarp
12   \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots\space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 { % v3 or later
21 { % before v3
22 \IfPackageAtLeastTF{acro}{2019/09/23}%
23 { % v2.10 or later
24 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
25 {
26   \mode_if_horizontal:F { \leavevmode }
27   \group_begin:
28     \use:x
29     {
30       \bool_if:cTF {l__acro_custom_#1_format_bool}
31       { \exp_not:v {l__acro_custom_#1_format_tl} }
32       { \exp_not:v {l__acro_#1_format_tl} }
33       { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34     }
35   \group_end:
```

```

36 }
37
38 \cs_gset_protected:Npn \__acro_ending_format:nn #1#2
39 {
40   \bool_if:NTF \l__acro_include_endings_format_bool
41   {
42     \str_case:nn {#1}
43     {
44       {long}
45       {
46         \bool_if:NTF \l__acro_custom_long_format_bool
47         { \l__acro_custom_long_format_tl }
48         {
49           \bool_if:NTF \l__acro_first_instance_bool
50           { \l__acro_first_long_format_tl }
51           { \l__acro_long_format_tl }
52         }
53       }
54     } {short}
55     {
56       \bool_if:NTF \l__acro_custom_short_format_bool
57       { \l__acro_custom_short_format_tl }
58       { \l__acro_short_format_tl }
59     }
60   } {alt}
61   {
62     \bool_if:NTF \l__acro_custom_alt_format_bool
63     { \l__acro_custom_alt_format_tl }
64     { \l__acro_alt_format_tl }
65   }
66 }
67 }
68 { \use:n }
69 {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71 ]% v2.10 or later
72 {% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75   \mode_if_horizontal:F { \leavevmode }
76   \group_begin:
77     \bool_if:NTF \l__acro_custom_format_bool
78     { \l__acro_custom_format_tl }
79     { \l__acro_short_format_tl }
80     {\LWR@textcurrentfont{#2}}% lwarp
81   \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86   \mode_if_horizontal:F { \leavevmode }
87   \group_begin:
88     \bool_if:NTF \l__acro_custom_format_bool
89     { \l__acro_custom_format_tl }
90     { \l__acro_alt_format_tl }
91     {\LWR@textcurrentfont{#2}}% lwarp
92   \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2

```

```

96 {
97   \mode_if_horizontal:F { \leavevmode }
98   \group_begin:
99     \bool_if:NTF \l__acro_custom_long_format_bool
100     { \l__acro_custom_long_format_tl }
101     { \use:n }
102     {
103       \use:x
104       {
105         \exp_not:n {#1}
106         {
107           \bool_if:NTF \l__acro_first_upper_bool
108           { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
109             \LWR@textcurrentfont{#2}% lwarp
110           } } }
111           { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112         }
113       }
114     }
115   \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```

---

File 13 **lwarp-acronym.sty**

§ 122 Package **acronym**

*(Emulates or patches code by TOBIAS OETIKER.)*

Pkg acronym

acronym is patched for use by lwarp.



**multiply-defined labels**

\acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{acronym}[2020/04/17]
```

Simplifies for HTML:

```

2 \expandafter\def\csname AC@AC@prefix{}@acro\endcsname#1[#2]#3{%
3   \ifAC@nolist%
4   \else%
5   \ifnum%
6     \ifAC@printonlyused 1%
7     \else\ifAC@printonlyreused 1%
8     \else 0\fi\fi%
9   =1\relax%
10  \ifnum%
11    \ifAC@printonlyused%
12    \expandafter\ifx\csname acused@#1@once\endcsname\AC@used 1 \else 0 \fi%
13    \else\ifAC@printonlyreused%
14    \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used 1 \else 0 \fi%
15    \else 0 \fi\fi%
16  =1\relax%
17  \item[\protect\AC@hypertarget{#1}]%
18    \AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}%

```



```

19    ]\AC@hyperref[acro:#1]{#3}%
20    \ifAC@withpage%
21        \expandafter\ifx\csname r@acro:#1\endcsname\relax%
22        \PackageInfo{acronym}{%
23            Acronym #1 used in text but not spelled out in
24            full in text}%
25        \else%
26            \nobreak\leaders\hbox{%
27                $m@th\mkern\@dotsep mu\hbox{.}\mkern\@dotsep mu$%
28            }\hfill%
29            \nobreak\hb@xt@\@pnumwidth{%
30                \hfil\normalfont\normalcolor
31                \quad --- % lwarp
32                \AC@pageref{acro:#1}%
33            }%
34        \fi%
35    \fi\%
36    \fi%
37    \else%
38        \item[\protect\AC@hypertarget{#1}{\AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}}]%
39        \AC@hyperref[acro:#1]{#3}%
40    \fi%
41    \fi%
42    \begingroup
43        \def\acroextra##1{%
44            \@bsphack
45            \ifAC@printonlyreused%
46                \protected@write\@auxout{}{%
47                    \string\newacro{#1}%
48                    \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used%
49                    \string\AC@hyperlink{#1}{#2}%
50                \else%
51                    {#2}%
52                \fi%
53            ]{#3}%
54        }%
55    \else%
56        \protected@write\@auxout{}{%
57            \string\newacro{#1}[\string\AC@hyperlink{#1}{#2}]{#3}%
58        }%
59    \fi%
60    \@esphack
61    \endgroup
62    \ignorespaces}

```

Uses `\textit` instead of `\itshape`:

```

63 \renewcommand{\acfia}[1]{%
64     {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}

```

Removes the `mbox` to allow math inside:

```

65 \renewcommand*\AC@acs[1]{%
66     \mbox{
67     \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
68 }

```

Fix for acronym labels in the captions of floats.

```

69 \renewcommand{\@starttoc}[1]{%
70   \LWR@htmlElementclass{nav}{#1}
71   \LetLtxMacro\@verridelabel\@gobble
72   \LWR@orig@starttoc{#1}
73   \LWR@htmlElementclassend{nav}{#1}
74 }

```

Modified for cleveref and lwarp:

```

75 \renewcommand*{\AC@und@newlabel[3]}{%
76   \@ifundefined{#1@#3}%
77   {%
78     \global\expandafter\let\csname#2@#3\endcsname\@nnil
79     \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
80     \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
81   }%
82   {%
83     \global\expandafter\let\csname#1@#3\endcsname\relax
84     \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
85     \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
86   }%
87 }%

```

Improve paragraph handling:

```

88 \BeforeBeginEnvironment{acronym}{\LWR@stoppars}
89 \AfterEndEnvironment{acronym}{\LWR@startpars}

```

Create hyperlinks, even though hyperref is only emulated:

```

90 \AtBeginDocument{
91   \LetLtxMacro\AC@hyperlink\hyperlink
92   \LetLtxMacro\AC@hyperref\hyperref
93   \newcommand*{\AC@raisedhypertarget[2]}{%
94     \Hy@raisedlink{%
95       \hypertarget{#1}}{%
96     }%
97     #2}%
98   \LetLtxMacro\AC@hypertarget\AC@raisedhypertarget
99   \def\AC@phantomsection{%
100     \Hy@GlobalStepCount\Hy@linkcounter
101     \edef\@currentHref{section*.\the \Hy@linkcounter}%
102     \Hy@raisedlink{%
103       \hyper@anchorstart{\@currentHref}\hyper@anchorend
104     }%
105     \phantomsection%
106   }%
107 }
108
109 \appto\LWR@restoreorigformatting{%
110   \LetLtxMacro\AC@hyperlink\@secondoftwo%
111   \LetLtxMacro\AC@hyperref\LWR@nullify@hyperref%
112 }

```

File 14 **lwarp-adjmulticol.sty**§ 123 Package **adjmulticol***(Emulates or patches code by BORIS VEYTSMAN.)*

Pkg adjmulticol

adjmulticol is emulated.

Emulation similar to `multicols` is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, `lwarp` allows a variable number of columns up to three.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {<numcols>} {<left margin>} {<right margin>}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{>%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{>%

If one column is specified, use a `<div>` of class `singlecolumn`, else use `multicols`:

9 \newcommand\*\LWR@mccolstype{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mccolstype{singlecolumn}}{>%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the `<div>` with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mccolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 124 Package **addlines***(Emulates or patches code by WILL ROBERTSON.)*

Pkg addlines

addlines is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{ }
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{ }
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{ }

```

File 16 **lwarp-afterpage.sty**

§ 125 Package

**afterpage***(Emulates or patches code by DAVID CARLISLE.)*

Pkg afterpage

afterpage is emulated.

**for HTML output:**

Discard all options for lwarp-afterpage:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}

```

File 17 **lwarp-algorithm2e.sty**

§ 126 Package

**algorithm2e***(Emulates or patches code by CHRISTOPHE FIORIO.)*

Pkg algorithm2e

algorithm2e is patched for use by lwarp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

```

For the list-of entries:

```

2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}

```

Select the lwarp float style according to the algorithm2e style:

```

3 \newcommand*\LWR@floatstyle@algocf{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf{boxed}
7 }{ }
8

```

```

9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}
15 }{}

```

Paragraph handling to allow line numbers under certain conditions:

```

16 \renewcommand{\algocf@everypar}{%
17   \ifbool{LWR@algocf@dopars}{%
18     \ifbool{LWR@doingstartpars}{%
19       \ifnumcomp{\value{LWR@Lateximagedepth}}{>}{0}{%
20         }{%
21         }%

```

`algorithm2e` uses `\everypar`, so the open paragraph tag is generated here instead of `\LWR@openparagraph`:

```

22   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
23
24   \algocf@everypar\n\algocf@everyparhanging%
25   }{}%
26 }{}%
27 }

```

lwarp caption handling:

```

28 \renewcommand{\algocf@makecaption}[2]{%
29   \LWR@HTML@caption@begin{algocf}%
30   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31   \LWR@HTML@caption@end%
32 }

```

Print any caption where it is declared:

```

33 \renewcommand{\algocf@makecaption@plain}[2]{%
34   \LWR@HTML@caption@begin{algocf}%
35   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36   \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40   \LWR@HTML@caption@begin{algocf}%
41   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42   \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46   \LWR@HTML@caption@begin{algocf}%
47   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48   \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
51 \boolfalse{LWR@algocf@dopars}%      lwarp
52 \par%
53 \addcontentsline{\csname ext@#1\endcsname}{#1}%
54 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \@parboxrestore%
57 \if@minipage%
58 \setminipage%
59 \fi%
60 \normalsize%
61 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}%      lwarp
64 }

```

Line numbers are printed in a `<span>` of class `alg2elinenumber`:

```

65 \renewcommand{\algocf@printnl}[1]{%
66 \InlineClass{alg2elinenumber}{\NLSty{#1}}~%
67 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

68 \preto\@algocf@init{%
69 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\endalgoln\fi}%
73 % \raggedright%
74 \ALFnt{}%
75 \booltrue{LWR@algocf@dopars}% lwarp
76 }
77
78 \renewcommand{\@algocf@finish}{%
79 \boolfalse{LWR@algocf@dopars}% lwarp
80 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81 \let\;=\@mathsemicolon%
82 \let\]=\@emathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90 \algocf@newcommand{#1}[1]{%
91 \ifthenelse{\boolean{algocf@hanginginout}}%

```

```

92     {\relax}%
93     {\algocf@seteveryparhanging{\relax}}%
94     \ifthenelse{\boolean{algocf@inoutnumbered}}%
95     {\relax}%
96     {\algocf@seteveryparnl{\relax}}%
97     {%
98         \KwSty{#2\algocf@typo:}%
99         ~##1\par%
100    }%
101    \algocf@linesnumbered% reset the numbering of the lines
102    \ifthenelse{\boolean{algocf@hanginginout}}%
103    {\relax}%
104    {\algocf@reseteveryparhanging}%
105  }%
106 }%
107
108 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@Vline}[1]{%
110     \boolfalse{LWR@algocf@dopars}%
111     \begin{BlockClass}{alg2evline}
112     \booltrue{LWR@algocf@dopars}%
113     #1
114     \boolfalse{LWR@algocf@dopars}%
115     \end{BlockClass}
116     \booltrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@Vsline}[1]{%
119     \boolfalse{LWR@algocf@dopars}%
120     \begin{BlockClass}{alg2evsline}
121     \booltrue{LWR@algocf@dopars}%
122     #1
123     \boolfalse{LWR@algocf@dopars}%
124     \end{BlockClass}
125     \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@Noline}[1]{%
128     \boolfalse{LWR@algocf@dopars}%
129     \begin{BlockClass}{alg2enoline}
130     \booltrue{LWR@algocf@dopars}%
131     #1
132     \boolfalse{LWR@algocf@dopars}%
133     \end{BlockClass}
134     \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```

---

File 18 **lwarp-algorithmicx.sty**

§ 127 Package **algorithmicx**

(Emulates or patches code by SZÁSZ JÁNOS.)

Pkg algorithmicx

algorithmicx is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a `<span>` of the required length, and comments are placed inside a `<span>` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 636.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9   span style=\textquotedbl{}%
10     width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11   \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26   \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%
```

---

File 19 **lwarp-alltt.sty**

§ 128 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)



Pkg alltt

alltt is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {}%
8     {%
9       \LWR@forcenewpage
```

Vertical spacing changes if inside a list.

```

10       \LWR@atbeginverbatim{alltt}%
11     }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16     {}%
17     {%
```

Vertical spacing changes if inside a list.


```

18       \LWR@afterendverbatim%
19     }%
20 }
21
22 }
```

File 20 **lwarp-amscdx.sty**§ 129 Package **amscdx***(Emulates or patches code by MARTIN VERMEER.)*

Pkg amscdx

amscdx is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \renewenvironment{CD}
5     {\text{(Use \unicode{x005C}displaymathother before the CD envioment.) \quad}}
6     {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD envioment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}}{}
10 \CustomizeMathJax{\newcommand{\CDFatfalse}}{}
11 \CustomizeMathJax{\newcommand{\CDashtrue}}{}
12 \CustomizeMathJax{\newcommand{\CDashfalse}}{}

```

```
13 \CustomizeMathJax{\newcommand{\CDLor}[1]{}}
14 \end{warpMathJax}
```

File 21 **lwarp-amsmath.sty**§ 130 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg amsmath

amsmath is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]
```

\dotso

An HTML text-mode version.

```
2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow `\eqref` inside a caption:

```
4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@{\ignorespaces#1\unskip}}
```

Patches for  $\mathcal{AMS}$  math `\tag` macro to remember the first tag:

```
6 \ifbool{mathjax}{}% not mathjax
7
8 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
9 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
10
11 \renewcommand*\make@df@tag@@[1]{%
12   \LWR@remembertag{#1}%
13   \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*\make@df@tag@@@[1]{%
17   \LWR@remembertag{#1}%
18   \LWR@origmake@df@tag@@@{#1}%
19 }
20
21 }% not mathjax
```

For nesting  $\mathcal{AMS}$  environments:

```
22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}
```

The following  $\mathcal{AMS}$  environments are patched in-place:

Ctr LWR@maxfields@

A copy of `maxfields@` as it was passed. This is used to generate the mandatory argument for `alignat` and `alignat*` when using `MATHJAX`.

```
24 \newcounter{LWR@maxfields@}
25
26 \xpatchcmd{\start@align}
```

```

27   {\maxfields@#3\relax}
28   {%
29     \maxfields@#3\relax%
30     \setcounter{LWR@maxfields@}{#3}%
31   }
32   {}
33   {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before`

\*  $\langle environment\ name \rangle$

\* if the environment was starred.

Embeds the environment inside a `lateximage`.

```

34 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
35   \IfBooleanTF{#1}{
36     \begin{BlockClass}{displaymath}
37   }{
38     \begin{BlockClass}{displaymathnumbered}
39   }
40   \LWR@newautoidanchor%
41   \booltrue{LWR@indisplaymathimage}%
42   \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*%
43   \LWR@applyxfakebold%
44 }

```

`\LWR@amsmathenv@before`

\*  $\langle environment\ name \rangle$

\* if the environment was starred.

Embeds the environment with `MATHJAX` or a `lateximage`.

```

45 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
46   \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
47     \LWR@stoppars%
48     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
49     {
50       \LWR@syncmathjax
51       \boolfalse{LWR@amsmultline}
52       \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{ }
53       \ifstrequal{#2}{multline*}{\booltrue{LWR@amsmultline}}{ }

```



**autonom's "+" environments are not supported by `MATHJAX`.**

```

54   \LWR@beginhideamsmath
55   }
56   {
57   \IfBooleanTF{#1}{
58     \LWR@amsmathenv@@before*{#2}
59   }{
60     \LWR@amsmathenv@@before{#2}
61   }
62   }
63 }{}
64 \addtocounter{LWR@amsmathdepth}{1}
65 }

```

`\LWR@amsmathenv@@after`

Embeds the environment inside a `lateximage`.

```

66 \newcommand*{\LWR@amsmathenv@@after}{%
67   \end{lateximage}\end{BlockClass}\LWR@startpars%

```

68 }

\LWR@amsmathenv@after

\*  $\{environment\ name\}$ 

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or a lateximage.

```

69 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
70   \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
71     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
72     {
73       \LWR@endhideamsmath
74       \boolfalse{LWR@amsmultline}
75       \LWR@addmathjax{#2}{\the\@envbody}
76     }
77     {\LWR@amsmathenv@@after}

```

Clear the single-use alt text:

```

78   \gdef\LWR@ThisAltText{%
79   }{}
80   \addtocounter{LWR@amsmathdepth}{-1}
81 }

```

Env multline

```

82 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
83
84 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}

```

Env multline\*

```

85 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
86
87 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
88

```

Env gather

```

89 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
90
91 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}

```

Env gather\*

```

92 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
93
94 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}

```

Env align

```

95 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
96
97 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

Env align\*

```

98 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
99
100 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```

Env flalign

```

101 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
102
103 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}

```

Env flalign\*

```

104 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
105
106 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

Env alignat

```

107 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
108
109 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

Env alignat\*

```

110 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
111
112 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

```

```

113 \AtBeginEnvironment{subequations}{
114   \renewcommand*\theMathJaxsubequations}{1}
115   \renewcommand*\theMathJaxsection}{\theparentequation}
116   \renewcommand*\theMathJaxequation}{\arabic{equation}}
117 }

```

For MATHJAX:

```

118 \begin{warpMathJax}
119 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
120 \CustomizeMathJax{\let\Hat\hat}
121 \CustomizeMathJax{\let\Check\check}
122 \CustomizeMathJax{\let\Tilde\tilde}
123 \CustomizeMathJax{\let\Acute\acute}
124 \CustomizeMathJax{\let\Grave\grave}
125 \CustomizeMathJax{\let\Dot\dot}
126 \CustomizeMathJax{\let\Ddot\ddot}
127 \CustomizeMathJax{\let\Breve\breve}
128 \CustomizeMathJax{\let\Bar\bar}
129 \CustomizeMathJax{\let\Vec\vec}
130 \end{warpMathJax}

```

---

File 22 **lwarp-amsthm.sty**

§ 131 Package **amsthm**

*(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)*

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

`amsthm` is patched for use by `lwarp`.

---

Table 19: `amsthm` package — css styling of theorems and proofs

---

**Theorem:** `<div>` of class `amsthmbody<theoremstyle>`

**Theorem Name:** `<span>` of class `amsthmname<theoremstyle>`

**Theorem Number:** `<span>` of class `amsthmnumber<theoremstyle>`

**Theorem Note:** `<span>` of class `amsthmnote<theoremstyle>`

**Proof:** `<div>` of class `amsthmproof`

**Proof Name:** `<span>` of class `amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

---

for HTML output:

`amsthm` must be loaded before `mdframed`:

```

1 \IfPackageLoadedTF{mdframed}{
2   \PackageError{lwarp}
3   {%
4     Package mdframed must be loaded after package amsthm.\MessageBreak
5     Enter 'H' for solutions%
6   }
7   {%
8     Move ‘‘\protect\usepackage{amsthm}’’ before
9     ‘‘\protect\usepackage{mdframed}’’.\MessageBreak
10    Package amsthm may be loaded by something else,\MessageBreak
11    which must also be moved before mdframed.%
12  }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}
16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19   \ifundefined{th@#1}{%
20     \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
21     \thm@style{plain}%
22     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23   }{%
24     \thm@style{#1}%
25     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26   }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \def\xnthm#1#2{%
29   \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30   \let\@tempa\relax
31   \exp\@ifdefinable\csname #2\endcsname{%
32     \global\@xp\let\csname end#2\endcsname\@endtheorem
33     \ifx *#1% unnumbered, need to get one more mandatory arg
34       \edef\@tempa##1{%
35         \gdef\exp\@nx\csname#2\endcsname{%
36           \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
37             {##1}}}%
38     \else % numbered theorem, need to check for optional arg
39       \def\@tempa{\@oparg{\@ynthm{#2}}[]}%
40     \fi
41     \AtBeginEnvironment{#2}{%                               lwarp
42       \edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#2}}%   lwarp
43     }%   lwarp
44   }%
45   \@tempa%
46 }

```

Patched to enclose with css:

```

47 \newcommand{\LWR@haveamsthmname}{
48   \renewcommand{\thmname}[1]{%
49     \InlineClass{amsthmname\LWR@thismstyle}{##1}%
50   }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{
54   \renewcommand{\thmnumber}[1]{%
55     \InlineClass{amsthmnumber\LWR@thismstyle}{##1}%
56   }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{
60   \renewcommand{\thmnote}[1]{%
61     \InlineClass{amsthmnote\LWR@thismstyle}{##1}%
62   }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%

69   \GetTitleString{#3}%                               lwarp
70   \let\@currentlabelname\GetTitleStringResult%     lwarp
71   \item[%

72   \LWR@newautopagelabel{page}\LWR@orignewline%

73 % \deferred@thm@head{
74 %   \the\thm@headfont \thm@indent

```

```

75 \@ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthmname}% lwarp
76 \@ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthmnumber}% lwarp
77 \@ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthmnote}% lwarp
78 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
79 \the\thm@headpunct % space
80 \thmheadnl % possibly a newline.
81 \hskip\thm@headsep
82 % }%
83 ]%
84 \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86 \ifhmode\unskip\unskip\par\fi
87 \normalfont
88 \LWR@forcenewpage% lwarp

89 \LWR@printpendingfootnotes% lwarp

90 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
91 \trivlist
92 \let\thmheadnl\relax
93 \let\thm@swap@gobble
94 \thm@notefont{\fontseries\mdefault\upshape}%
95 \thm@headpunct{.}% add period after heading
96 \thm@headsep 5\p@ plus\p@ minus\p@\relax
97 \thm@space@setup
98 #1% style overrides
99 \@topsep \thm@preskip % used by thm head
100 \@topsepadd \thm@postskip % used by \@endparenv
101 \def\@tempa{#2}\ifx\@empty\@tempa
102 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}{}}{}}%
103 \else
104 \refstepcounter{#2}%
105 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}{}}%
106 \fi
107 \@tempa%
108 }

```

cleveref patches \@thm to do \cref@thmoptarg if an optional argument is given.  
lwarp then patches \cref@thmoptarg \@AtBeginDocument.

```

109 \@AtBeginDocument{%
110 \def\cref@thmoptarg[#1]#2#3#4{%
111 \ifhmode\unskip\unskip\par\fi%
112 \normalfont%
113 \LWR@forcenewpage% lwarp

114 \LWR@printpendingfootnotes% lwarp

115 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
116 \trivlist%
117 \let\thmheadnl\relax%
118 \let\thm@swap@gobble%
119 \thm@notefont{\fontseries\mdefault\upshape}%
120 \thm@headpunct{.}% add period after heading
121 \thm@headsep 5\p@ plus\p@ minus\p@\relax%

```



```

122 \thm@space@setup%
123 #2% style overrides
124 \@topsep \thm@preskip % used by thm head
125 \@topsepadd \thm@postskip % used by \@endparenv
126 \def\@tempa{#3}\ifx\@empty\@tempa%
127 \def\@tempa{\@oparg{\@begintheorem{#4}{}}{}}{}}%
128 \else%
129 \refstepcounter[#1]{#3}% <<< cleveref modification
130 \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}{}}%
131 \fi%
132 \@tempa
133 }%
134 }% AtBeginDocument
135
136 \def\@endtheorem{%
137 \endtrivlist%

138 \LWR@printpendingfootnotes% lwarp

139 \endBlockClass%
140 \enddefalse%
141 }

```

Proof QED symbol:

```

142 \AtBeginDocument{
143 \@ifundefined{LWR@orig@openbox}{
144 \LetLtxMacro\LWR@orig@openbox\openbox
145 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
146 \LetLtxMacro\LWR@orig@Box\Box
147
148 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
149 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
150 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
151
152 \appto\LWR@restoreorigformatting{%
153 \LetLtxMacro\openbox\LWR@orig@openbox%
154 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
155 \LetLtxMacro\Box\LWR@orig@Box%
156 }% appto
157 }{ }% @ifundefined
158 }% AtBeginDocument

```

Patched to add a <span>:

```

159 \DeclareRobustCommand{\qed}{%
160 \ifmmode \mathqed
161 \else
162 % \leavevmode\unskip\penalty9999 \hbox{} \nobreak \hfill
163 % \quad \hbox{\qedsymbol}%
164 \InlineClass{theoremendmark}{\qedsymbol}% lwarp
165 \fi
166 }

```

Patched for css:

```

167 \renewenvironment{proof}[1][\proofname]{\par
168 \LWR@forcenewpage% lwarp

```

```

169 \LWR@printpendingfootnotes%                lwarp

170 \BlockClass{amsthmproof}% lwarp
171 \LWR@newautopagelabel{page}%
172 \pushQED{\qed}%
173 \normalfont \topsep6\p@\@plus6\p@\relax
174 \trivlist
175 \item[
176 \InlineClass{amsthmproofname}{#1\@addpunct{.}}]\ignorespaces% changes
177 }{%
178 \popQED\endtrivlist%

179 \LWR@printpendingfootnotes%                lwarp

180 \endBlockClass% lwarp
181 \@endpfalse
182 }

```

---

File 23 **lwarp-anonchap.sty**

§ 132 Package **anonchap**

*(Emulates or patches code by PETER WILSON.)*

Pkg anonchap

anonchap is emulated.

Pkg tocloft

If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ tocloft & other packages

The code is shared by tocbibind.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }

```

---

File 24 **lwarp-anysize.sty**

§ 133 Package **anysize**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg anysize

anysize is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

```

---

```
2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```


---

File 25 **lwarp-appendix.sty**§ 134 Package **appendix**

*(Emulates or patches code by PETER WILSON.)*

Pkg appendix

appendix is patched for use by lwarp.

 **incorrect TOC link** During HTML conversion, the option toc without the option page results in a TOC link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

**for HTML output:** 1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

```
2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

File 26 **lwarp-ar.sty**§ 135 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

Pkg ar

ar is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```
2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5   \setlength{\LWR@ar@width}{\widthof{#1}}%
6   width:%
7   \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed `lateximage`, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}

16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A!|!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A!|!R}}}
44 \end{warpMathJax}
```

File 27 **lwarp-arabicfront.sty**§ 136 Package **arabicfront**

Pkg arabicfront

arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 28 **lwarp-array.sty**§ 137 Package **array**

Pkg array

array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullfied macros:

```
1 \IfPackageLoadedTF{array}{}{%
2   \let\firsthline\relax
3   \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumnntype{w}[2]{#1}
8 \HTMLnewcolumnntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firsthline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firsthline}
11
12 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}
```

```
14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18   \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

File 29 **lwarp-arydshln.sty**

§ 138 Package **arydshln**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg arydshln

**arydshln** heavily patches `tabular` code, so the actual package is not used. **arydshln** is emulated for `HTML` `tabular`, and reverts to solid rules for `SVG` `math array` and `tabular` in a `lateximage`.

`css` is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For `MATHJAX`, limited emulation is provided for math mode.

**for HTML output:** `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthand}{}
17 \newcommand*{\dashgapcolor}[2]{}
18 \newcommand*{\nodashgapcolor}{}

```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{;}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \let\LTxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hdashline{
```

```

25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 % #1}%
36 % #1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 % ]}}
40 \def\adl@ihdashline[#1/#2]{\ifnum0='{ \fi}%
41 % \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule \@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 \ifx\@tempa\hdashline \adl@ixhline\fi
50 \ifnum0='{ \fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{ \fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][[]]{\hdashline}}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 30 **lwarp-asymptote.sty**

§ 139 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg asymptote

asymptote is patched for use by lwarp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1
```

```
lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

```
for HTML output: 1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3   \begin{lateximage}[-asymptote-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8   {\begingroup}
9   {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]}
10  {}
11  {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14   {\endgroup}
15   {\end{lateximage}}
16   {}
17   {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

File 31 **lwarp-atbegshi.sty**§ 140 Package **atbegshi***(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg atbegshi

atbegshi is ignored.

**for HTML output:** Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]
2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
```



```

8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard{}
18 \newcommand*\AtBeginShipoutInit{}
19 \newcommand*\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

File 32 **lwarp-attachfile.sty**

§ 141 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg attachfile

attachfile is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*\LWR@attachfile@icon}
3 {
4   \begin{lateximage}*%
5     [-attachfile-%
6     [%
7       \detokenize\expandafter{\atfi@icon@icon}-%
8       \detokenize\expandafter{\atfi@color@rgb}%
9     ]%
10 }
11 {
12   \end{lateximage}
13 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

14 \xpretocmd{\atfi@acroGraph}\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}\endLWR@attachfile@icon}{}{}

```

```

22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29   \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32   \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }

```

### File 33 **lwarp-attachfile2.sty**

## § 142 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg attachfile2

attachfile2 is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5   \def\LWR@attachfiletwo@color{#1}%   lwarp
6   \HyColor@AttachfileColor{#1}%
7     \atfi@color@tex\atfi@color@inline\atfi@color@annot
8     {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12   \begin{lateximage}*%
13     [-attachfile-]%
14     [%
15       \detokenize\expandafter{\atfi@icon@icon}-%
16       \detokenize\expandafter{\LWR@attachfiletwo@color}%
17     ]%
18 }

```

```

19 {
20   \end{lateximage}
21 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37   \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41   \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44   \LWR@href{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47   \begingroup
48     \atfi@setup{#1}%
49     \ifatfi@print
50     \leavevmode
51     \begingroup
52       \HyColor@UseColor\atfi@color@tex
53       \LWR@textcurrentcolor{#2}%      lwarp
54 % \strut
55     \endgroup
56 %   \else
57 %     \sbox\ltx@zero{#2\strut}%
58 %     \makebox[\wd0]{}%
59   \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][\]{%
63   \begingroup
64     \atfi@setup{#1}%
65     \atfi@set@appearance@icon
66     \ifatfi@print
67     \LWR@attachfile@appearance%   lwarp
68 %   \expandafter
69 %     \atfi@refxform\csname atfi@appobj@atfi@icon@icon\endcsname
70 %   \else
71 %     \makebox[\atfi@appearancewidth]{%
72     \fi
73   \endgroup
74 }

```

---

File 34 **lwarp-authblk.sty**

§ 143 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk

authblk is patched for HTML.

[package support](#)

 [load order](#)

lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

[\published and \subtitle](#)

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:**

Require that `authblk` be loaded before `titling`:

```

1 \IfPackageLoadedTF{titling}{
2   \PackageError{lwarp-authblk}
3     {Package authblk must be loaded before titling}
4     {%
5       Titling appends authblk's author macro,
6       so authblk must be loaded first.%
7     }
8 }
9 {\relax}

```

Load `authblk`:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][\]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an `\authorcr`:

---

```
16 \renewcommand*{\authorcr}{\protect\LWR@newLinebr}
```

---

File 35 **lwarp-autobreak.sty**

§ 144 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

Pkg autobreak

**autobreak** is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified align environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```
2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}
```


---

File 36 **lwarp-autonum.sty**

§ 145 Package **autonum**

Pkg autonum

**autonum** is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}
```

```

20 \newenvironment{flalign+}{\flalign}\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}\endsplit}

```

---

File 37 **lwarp-awesomebox.sty**

§ 146 Package **awesomebox**

*(Emulates or patches code by ÉTIENNE DEPARIS.)*

Pkg awesomebox

awesomebox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]
2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{}%
6   border-top: 1px solid black ;
7   border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{} o m m m +m }{%
12   \begin{awesomeblock}[#1][#2][#3]{#4}{#5}{#6}
13     #7
14   \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{} o m m m }
21 {%
22   \LWR@forceminwidth{#4}%
23   \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24   \renewcommand*{\LWR@awesomebox@boxborders}{}%
25   \renewcommand*{\LWR@awesomebox@contentsborders}{}%

```

```

26 \ifdefstrequal{\abShortLine}{#2}{%
27   \renewcommand*\LWR@awesomebox@contentsborders{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstrequal{\abLongLine}{#2}{%
30   \renewcommand*\LWR@awesomebox@boxborders{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34   margin-left: 2\% ;
35   vertical-align: top
36 ]{minipage}
37   \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40   width:75\% ;
41   vertical-align: top ;
42   padding-left: 1em ;
43   \LWR@awesomebox@contentsborders ;
44   border-left: \LWR@printlength{\LWR@atleastonept} %
45     solid \LWR@origpound\LWR@tempcolor%
46 ]{minipage}
47   \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 38 **lwarp-axessibility.sty**

§ 147 Package **axessibility**

Pkg axessibility

axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘axessibility’.%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7   \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11   \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17   \RequirePackage{tagpdf}
18 \else
19   \RequirePackage{accsupp}
20 \fi

```

```

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}

```

```
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}
```

For MATHJAX. These usually will not be needed.

```
25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}
```

---

File 39 **lwarp-axodraw2.sty**

§ 148 Package **axodraw2**

*(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)*

Pkg axodraw2

axodraw2 is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]
2 \BeforeBeginEnvironment{axopicture}{%
3   \begin{lateximage}[-axopicture-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

---

File 40 **lwarp-backnaur.sty**

§ 149 Package **backnaur**

*(Emulates or patches code by ADRIAN P. ROBSON.)*

Pkg backnaur

backnaur is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]
2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnf}[1]{\langle \text{\textrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9   \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11   \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12     \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13   }{
```



```

14     \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15   }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{backnaur}{altpo}{
25   \CustomizeMathJax{\newcommand{\bnfpo}{:=}}
26 }{
27   \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfnp{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfnp{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmoreenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{& & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmoreenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```

---


File 41 **lwarp-backref.sty**

§ 150 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

Pkg backref

backref is patched for use by lwarp.

 **loading** Note that backref must be explicitly loaded, and is not automatically loaded by hyperref when generating HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5   \LWR@refwithsection{#3}%
6 }
7
8 \let\backrefxxx\hyper@section@backref

```

---

File 42 **lwarp-balance.sty**

§ 151 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg balance

balance is ignored.

**for HTML output:**

Discard all options for `lwarp-balance`:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

File 43 **lwarp-bbding.sty**

§ 152 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg bbding

`bbding` is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045} {2717}}

```

|     |                                                                          |         |
|-----|--------------------------------------------------------------------------|---------|
| 42  | \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}               | {2719}} |
| 43  | \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}                      | {271A}} |
| 44  | \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}            | {271C}} |
| 45  | \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}        | {271B}} |
| 46  | \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}                     | {271D}} |
| 47  | \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}           | {271E}} |
| 48  | \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}              | {271F}} |
| 49  | \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}          | {271F}} |
| 50  | \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}              | {2720}} |
| 51  | \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}            | {2721}} |
| 52  | \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}                 | {2721}} |
| 53  | \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}              | {2722}} |
| 54  | \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}                  | {2723}} |
| 55  | \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}              | {2724}} |
| 56  | \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}           | {2725}} |
| 57  | \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}                  | {2726}} |
| 58  | \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}              | {2727}} |
| 59  | \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}             | {2729}} |
| 60  | \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}                  | {2605}} |
| 61  | \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}              | {2729}} |
| 62  | \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}       | {272A}} |
| 63  | \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}        | {272B}} |
| 64  | \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}        | {272C}} |
| 65  | \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}           | {272D}} |
| 66  | \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}      | {272E}} |
| 67  | \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}            | {272F}} |
| 68  | \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}            | {2730}} |
| 69  | \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}              | {2731}} |
| 70  | \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}        | {2732}} |
| 71  | \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}              | {273B}} |
| 72  | \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}}    | {273C}} |
| 73  | \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}            | {2733}} |
| 74  | \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}           | {2735}} |
| 75  | \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                   | {2736}} |
| 76  | \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}                 | {2737}} |
| 77  | \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}             | {2738}} |
| 78  | \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}                | {2739}} |
| 79  | \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}          | {273A}} |
| 80  | \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}     | {273B}} |
| 81  | \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}       | {273C}} |
| 82  | \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}                  | {273D}} |
| 83  | \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}        | {273E}} |
| 84  | \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}           | {273F}} |
| 85  | \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}      | {2740}} |
| 86  | \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}            | {2740}} |
| 87  | \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}          | {2741}} |
| 88  | \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}}       | {2742}} |
| 89  | \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}}         | {2743}} |
| 90  | \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}}            | {273F}} |
| 91  | \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}}           | {273F}} |
| 92  | \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}}       | {2749}} |
| 93  | \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}}   | {274A}} |
| 94  | \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}}             | {274B}} |
| 95  | \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} | {2740}} |
| 96  | \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}}               | {2748}} |
| 97  | \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}}                   | {2747}} |
| 98  | \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}}          | {2744}} |
| 99  | \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}}      | {2746}} |
| 100 | \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}}                 | {2744}} |
| 101 | \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}}               | {25CF}} |

102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}  
 103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}  
 104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}  
 105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}  
 106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}  
 107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}  
 108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}  
 109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}  
 110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}  
 111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}  
 112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}  
 113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}  
 114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}  
 115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}  
 116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}  
 117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}  
 118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}  
 119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}  
 120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}  
 121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}  
 122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}  
 123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}  
 124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}  
 125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}  
 126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}  
 127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}}  
 128  
 129  
 130 \LWR@formatted{ScissorRightBrokenBottom}  
 131 \LWR@formatted{ScissorRight}  
 132 \LWR@formatted{ScissorRightBrokenTop}  
 133 \LWR@formatted{ScissorLeftBrokenBottom}  
 134 \LWR@formatted{ScissorLeft}  
 135 \LWR@formatted{ScissorLeftBrokenTop}  
 136 \LWR@formatted{ScissorHollowRight}  
 137 \LWR@formatted{ScissorHollowLeft}  
 138 \LWR@formatted{Phone}  
 139 \LWR@formatted{PhoneHandset}  
 140 \LWR@formatted{Tape}  
 141 \LWR@formatted{Plane}  
 142 \LWR@formatted{Envelope}  
 143 \LWR@formatted{HandCuffRight}  
 144 \LWR@formatted{HandCuffLeft}  
 145 \LWR@formatted{HandCuffRightUp}  
 146 \LWR@formatted{HandCuffLeftUp}  
 147 \LWR@formatted{HandRight}  
 148 \LWR@formatted{HandLeft}  
 149 \LWR@formatted{HandRightUp}  
 150 \LWR@formatted{HandLeftUp}  
 151 \LWR@formatted{Peace}  
 152 \LWR@formatted{HandPencilLeft}  
 153 \LWR@formatted{PencilRight}  
 154 \LWR@formatted{PencilLeft}  
 155 \LWR@formatted{PencilRightUp}  
 156 \LWR@formatted{PencilLeftUp}  
 157 \LWR@formatted{PencilRightDown}  
 158 \LWR@formatted{PencilLeftDown}  
 159 \LWR@formatted{NibRight}  
 160 \LWR@formatted{NibLeft}  
 161 \LWR@formatted{NibSolidRight}

162 \LWR@formatted{NibSolidLeft}  
163 \LWR@formatted{Checkmark}  
164 \LWR@formatted{CheckmarkBold}  
165 \LWR@formatted{XSolid}  
166 \LWR@formatted{XSolidBold}  
167 \LWR@formatted{XSolidBrush}  
168 \LWR@formatted{PlusOutline}  
169 \LWR@formatted{Plus}  
170 \LWR@formatted{PlusCenterOpen}  
171 \LWR@formatted{PlusThinCenterOpen}  
172 \LWR@formatted{Cross}  
173 \LWR@formatted{CrossOpenShadow}  
174 \LWR@formatted{CrossOutline}  
175 \LWR@formatted{CrossBoldOutline}  
176 \LWR@formatted{CrossMaltese}  
177 \LWR@formatted{DavidStarSolid}  
178 \LWR@formatted{DavidStar}  
179 \LWR@formatted{FourAsterisk}  
180 \LWR@formatted{JackStar}  
181 \LWR@formatted{JackStarBold}  
182 \LWR@formatted{CrossClowerTips}  
183 \LWR@formatted{FourStar}  
184 \LWR@formatted{FourStarOpen}  
185 \LWR@formatted{FiveStarLines}  
186 \LWR@formatted{FiveStar}  
187 \LWR@formatted{FiveStarOpen}  
188 \LWR@formatted{FiveStarOpenCircled}  
189 \LWR@formatted{FiveStarCenterOpen}  
190 \LWR@formatted{FiveStarOpenDotted}  
191 \LWR@formatted{FiveStarOutline}  
192 \LWR@formatted{FiveStarOutlineHeavy}  
193 \LWR@formatted{FiveStarConvex}  
194 \LWR@formatted{FiveStarShadow}  
195 \LWR@formatted{AsteriskBold}  
196 \LWR@formatted{AsteriskCenterOpen}  
197 \LWR@formatted{AsteriskThin}  
198 \LWR@formatted{AsteriskThinCenterOpen}  
199 \LWR@formatted{EightStarTaper}  
200 \LWR@formatted{EightStarConvex}  
201 \LWR@formatted{SixStar}  
202 \LWR@formatted{EightStar}  
203 \LWR@formatted{EightStarBold}  
204 \LWR@formatted{TwelveStar}  
205 \LWR@formatted{SixteenStarLight}  
206 \LWR@formatted{SixFlowerPetalRemoved}  
207 \LWR@formatted{SixFlowerOpenCenter}  
208 \LWR@formatted{Asterisk}  
209 \LWR@formatted{SixFlowerAlternate}  
210 \LWR@formatted{FiveFlowerPetal}  
211 \LWR@formatted{SixFlowerPetalDotted}  
212 \LWR@formatted{FiveFlowerOpen}  
213 \LWR@formatted{EightFlowerPetal}  
214 \LWR@formatted{SunshineOpenCircled}  
215 \LWR@formatted{SixFlowerAltPetal}  
216 \LWR@formatted{FourClowerOpen}  
217 \LWR@formatted{FourClowerSolid}  
218 \LWR@formatted{AsteriskRoundedEnds}  
219 \LWR@formatted{EightFlowerPetalRemoved}  
220 \LWR@formatted{EightAsterisk}  
221 \LWR@formatted{SixFlowerRemovedOpenPetal}

```

222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 44 **lwarp-beamerarticle.sty**

§ 153 Package **beamerarticle**

*(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)*

Pkg beamerarticle

**beamerarticle** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]
2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7   \only#1{%
8     \beameroriginal{\LWR@listitem}%
9   }}%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13   \only#1{%
14     \beameroriginal{\LWR@itemizeitem}%
15   }}%

```

```

16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19   \only#1{%
20     \beameroriginal{\LWR@descitem}%
21   }%
22 }
23
24 \renewcommand<>{\abstract}{%
25   \only#1{%
26     \beameroriginal{\abstract}%
27   }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31   \only#1{%
32     \beameroriginal{\LWR@includegraphicsb}%
33   }%
34 }
35
36 \xpretocmd\frame
37   {
38     \LWR@forcenewpage
39     \BlockClass{beamerframe}%
40   }
41   {}
42   {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe
45   {\endBlockClass}
46   {}
47   {\LWR@patcherror{beamerarticle}{beamer@endframe}}
48
49 % An example in the beamer docs for \cs{includegraphics}
50 % shows the use of \cs{llap} in a frame.
51 \xpretocmd\beamer@article@startframe
52   {\LWR@nulllistfills}
53   {}
54   {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
55
56 }% AtBeginDocument
57
58 \let\beamer@atmpop@frametitle@default\relax
59 \defbeamer@template<article>*{frametitle}{default}{%
60   \paragraph*{\insertframetitle}\ \par%
61   \ifdefempty{\insertframesubtitle}{%
62     \noindent\emph{\insertframesubtitle}\ \par%
63   }%
64 }
65
66
67 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
68   \LWR@itemizestart\LWR@origitemize%
69 }%
70 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
71   \LWR@descriptionstart\LWR@origdescription%
72 }%
73
74 \xapptocmd{\LWR@patchlists}
75   {%

```

```

76     \LetLtxMacro\itemize\LWR@beamer@itemize%
77     \LetLtxMacro\description\LWR@beamer@description%
78   }
79   {}
80   {\LWR@patcherror{beamerarticle}{LWR@patchlists}}
81
82
83 \LetLtxMacro\maketitle\LWR@maketitle
84
85 \renewcommand{\subtitle}[2][{}]{
86   \gdef\@subtitle{#2}
87   \def\insertsubtitle{#2}
88 }
89
90 \xpatchcmd{\@maketitle}
91   {%
92     \LWR@htmltag{\LWR@tagtitleend}%
93     \LWR@startpars%
94   }%
95   {%
96     \LWR@htmltag{\LWR@tagtitleend}%
97     \ifdefvoid{\@subtitle}{}%
98     \begin{BlockClass}{subtitle}%
99     \@subtitle%
100    \end{BlockClass}%
101   }%
102   \LWR@startpars%
103 }%
104 {}
105 {\LWR@patcherror{beamerarticle}{@maketitle}}
106
107 \RequirePackage{fancyvrb}
108 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}

```

---

File 45 **lwarp-biblatex.sty**

§ 154 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex

When biblatex is used, modifications from newfloat may have to be undone.

**for HTML output:**

1. lwarp uses newfloat.
2. For classes with chapters which newfloat does not know about, such as CTEX-related classes, newfloat may modify \addtocontents.
3. biblatex, though, wants to patch \addtocontents, which causes an error if \addtocontents has been changed.
4. Therefore, \addtocontents is restored to its original here, since biblatex is about to be loaded.
5. This means that the newfloat's chapterlistsgaps option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
```



```

2 \let\addtocontents\newfloat\addtocontents@ORI
3 {}

```

hyperref emulation is loaded \AtBeginDocument to avoid an options clash.

```

4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]

```

The following create hyperlinks to the references. The original code to use hyperref is recreated here, because hyperref is emulated.

```

7 \AfterPreamble{
8
9 \let\blx@anchors\@empty
10 \protected\def\blx@anchor{%
11   \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12   {}
13   {\listadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14     \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
15
16 \protected\def\blx@imc@bibhyperref{%
17   \@ifnextchar[%
18     {\blx@bibhyperref}
19     {\blx@bibhyperref[\abx@field@entrykey]}}%
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 %   \blx@sfsave
23 %   \hyperlink{cite.\the\c@refsection @#1}{%
24 %     \blx@sfstrest
25 %     #2%
26 %     \blx@sfsave
27 %   }%
28 % \blx@sfstrest%
29 }% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 %   \blx@sfsave
33 %   \hyperlink{cite.\the\c@refsection:#1}{%
34 %     \blx@sfstrest
35 %     #2%
36 %     \blx@sfsave
37 %   }%
38 %   \blx@sfstrest%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 %   \blx@sfsave%
43 %   \hypertarget{cite.\the\c@refsection:#1}{%
44 %     \blx@sfstrest
45 %     #2%
46 %     \blx@sfsave%
47 %   }%
48 %   \blx@sfstrest%
49 }
50
51 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a L<sup>A</sup>T<sub>E</sub>X box.

```
52 \xpretocmd{\blx@citecmdinit}
53   {\LWR@newautopagelabel{page}}%
54   {}
55   {\LWR@patcherror{biblatex}{blx@citecmdinit}}
```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```
56 \xpatchcmd{\blx@addbackref@i}
57   {\thepage}
58   {\theLWR@previousautopagelabel}% ref to the most recent object
59   {}
60   {\LWR@patcherror{biblatex}{blx@addbackref@i A}}
61
62 \xpatchcmd{\blx@addbackref@i}
63   {\c@page}
64   {\c@LWR@previousautopagelabel}% ref to the most recent object
65   {}
66   {\LWR@patcherror{biblatex}{blx@addbackref@i B}}
```

The following patches are for back page references.

```
67 \DeclareListFormat{pageref}{%
68   \ifnumless{\abx@pagerefstyle}{0}
69     {\usebibmacro{list:plain}%
70      \ifhyperref
71        {%
72          \hyperlink{page.#1}{#1}%
73          \LWR@refwithsection{\BaseJobname-autopage-#1}% lwarp
74        }
75     {#1}}
76   {\ifnumequal{\value{listcount}}{1}
77     {\usebibmacro{pageref:init}}
78     {}}%
79   \usebibmacro{pageref:comp}{#1}%
80   \ifnumequal{\value{listcount}}{\value{liststop}}
81     {\usebibmacro{pageref:dump}}
82     {}}
83
84 \renewbibmacro*{pageref:comp}[1]{%
85   \numdef\abx@range@prev{\abx@range@prev+1}%
86   \ifinteger{#1}
87     {\def\abx@range@num{#1}%
88      \def\abx@range@this{1}%
89      \ifnumequal{\abx@range@this}{\abx@range@last}
90        {}
91        {\def\abx@range@prev{-1}}}
92   {\ifrmnum{#1}
93     {\numdef\abx@range@num{\rmntonum{#1}}%
94      \def\abx@range@this{2}%
95      \ifnumequal{\abx@range@this}{\abx@range@last}
96        {}
97        {\def\abx@range@prev{-1}}}
98   {\undef\abx@range@num
99    \def\abx@range@this{0}%
100   \def\abx@range@prev{-1}}}%
```

```

101 \ifdef\abx@range@num
102   {\ifnumequal{\abx@range@num}{\abx@range@prev}
103     {\def\abx@range@hold{#1}%
104       \numdef\abx@range@diff{\abx@range@diff+1}}
105     {\usebibmacro{pageref:dump}%
106       \ifnumgreater{\abx@range@last}{-1}
107         {\printdelim{multilistdelim}}
108         {}}%
109     \ifhyperref
110 %       {\hyperlink{page.#1}{#1}}
111       {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
112       {#1}}%
113   \edef\abx@range@prev{\abx@range@num}}
114 {\usebibmacro{pageref:dump}%
115   \ifnumgreater{\abx@range@last}{-1}
116     {\printdelim{multilistdelim}}
117     {}}%
118   \ifhyperref
119 %     {\hyperlink{page.#1}{#1}}
120     {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
121     {#1}}%
122   \def\abx@range@prev{-1}}%
123 \edef\abx@range@last{\abx@range@this}}
124
125 \renewbibmacro*{pageref:dump}{%
126   \ifnumgreater{\abx@range@diff}{0}
127     {\ifcase\abx@pagerefstyle\relax % two
128       \bibrangedash
129       \ifhyperref
130 %         {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
131         {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132         {\abx@range@hold}%
133       \or % three
134         \ifnumless{\abx@range@diff}{2}
135           {\printdelim{multilistdelim}}
136           {\bibrangedash}%
137         \ifhyperref
138 %           {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
139           {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
140           {\abx@range@hold}%
141       \or % two+
142         \ifnumless{\abx@range@diff}{2}
143           {\sqspace
144           \ifhyperref
145 %             {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}}
146             {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147             {\bibstring{sequens}}}}
148         {\bibrangedash
149         \ifhyperref
150 %           {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
151           {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
152           {\abx@range@hold}}%
153       \or % three+
154         \ifnumless{\abx@range@diff}{2}
155           {\sqspace
156           \ifhyperref
157 %             {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}}
158             {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159             {\bibstring{sequens}}}}
160         {\ifnumless{\abx@range@diff}{3}

```

```

161         {\sqspace
162         \ifhyperref
163 %         {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
164         {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
165         {\bibstring{sequentes}}}
166         {\bibrangedash
167         \ifhyperref
168 %         {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
169         {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
170         {\abx@range@hold}}}%
171 \else % all+
172 \ifnumless{\abx@range@diff}{2}
173     {\sqspace
174     \ifhyperref
175 %     {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
176     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177     {\bibstring{sequens}}}
178     {\sqspace
179     \ifhyperref
180 %     {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
181     {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
182     {\bibstring{sequentes}}}%
183 \fi
184 \def\abx@range@diff{0}}
185 {}
186
187 }% \AfterPreamble

```

---

File 46 **lwarp-bibunits.sty**

§ 155 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg bibunits

bibunits is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

```

---

File 47 **lwarp-bigdelim.sty**

§ 156 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigdelim

bigdelim is used as-is for print or lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default css sets this to `font-size:200%`

⚠ use `\mrowcell` `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper

number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<->   a   b
      {
left   { c   d
      { e   f
      { g   h
<->   i   j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:** First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```

1 \let\ldelim\relax
2 \let\rdelim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]

```

```

\ldelim  {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} [\langle 3: vmove \rangle] {\langle 4:width \rangle} [\langle 5:text \rangle]
\rdelim

```

```

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}

```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```

17 \begin{warpMathJax}
18 % \ldelim ( {n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][]{\text{#1}~\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][]{\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}
22 % \rdelim ) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][]{\LWRbigdelim~\text{#1}}}

```

---

```

24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][\LWRrdelimitwo]}
25 \CustomizeMathJax{\def\rdeLim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}

```

---

File 48 **lwarp-bigfoot.sty**

§ 157 Package **bigfoot**

Pkg bigfoot bigfoot is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 49 **lwarp-bigstrut.sty**

§ 158 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigstrut bigstrut is used as-is for print or lateximage, and patched for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]{} }
12 \end{warpMathJax}

```

---

File 50 **lwarp-bitpattern.sty**

§ 159 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg bitpattern bitpattern is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]
2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{lateximage}[-bitpattern~\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{lateximage}}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}
```

---

File 51 **lwarp-blowup.sty**

§ 160 Package **blowup**

Pkg blowup blowup is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]
2 \newcommand*\blowUp[1]{}

```

---

File 52 **lwarp-bm.sty**

§ 161 Package **bm**

*(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)*

Pkg bm bm is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to
the MATHJAX setup code.

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
```

---

```

6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 53 **lwarp-booklet.sty**

§ 162 Package **booklet**

*(Emulates or patches code by PETER WILSON.)*

Pkg booklet

booklet is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]
2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target[3]{}
11 \newcommand*\source[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 54 **lwarp-bookmark.sty**

§ 163 Package **bookmark**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg bookmark

bookmark is ignored.

**for HTML output:** Discard all options for lwarp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]
2 \newcommand*\bookmarksetup[1]{}
3 \newcommand*\bookmarksetupnext[1]{}
4 \newcommand*\bookmark[2][1]{}
5 \newcommand*\bookmarkdefinestyle[2]{}
6 \newcommand*\bookmarkget[1]{}
7 \newcommand*\BookmarkAtEnd[1]{}

```



File 55 **lwarp-booktabs.sty**

§ 164 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs

**booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

△ `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

**for HTML output:** If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \IfPackageLoadedTF{booktabs}{}{
2   \LetLtxMacro\toprule\relax
3   \LetLtxMacro\midrule\relax
4   \LetLtxMacro\cmidrule\cline
5   \LetLtxMacro\bottomrule\relax
6   \LetLtxMacro\addlinespace\relax
7   \LetLtxMacro\morecmidrules\relax
8   \LetLtxMacro\specialrule\relax
9 }

```

Next, load the **booktabs** package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if **xltabular** is loaded:

```

11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16   {%
17     \IfValueTF{#1}%
18       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19     {%
20       \ifbool{FormatWP}%
21         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22         {\booltrue{LWR@doingtbrule}}}%
23     }%
24   \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29   {%
30     \IfValueTF{#1}%
31       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32     {%

```

```

33         \ifbool{FormatWP}%
34         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35         {\defaddtocounter{LWR@hlines}{1}}}%
36     }%
37     \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{0{\LWR@cmidrulewidth} d() m}{%
42     \LWR@docmidrule[#1](#2){#3}%
43     \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49     \IfValueTF{#1}%
50     {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51     {%
52         \ifbool{FormatWP}%
53         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54         {\booltrue{LWR@doingtbrule}}}%
55     }%
56     \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}{%
70     {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

#### For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1]}%
80     \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81 }}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1]}
85 \end{warpMathJax}

```

---

File 56 **lwarp-bophook.sty**

§ 165 Package **bophook**

Pkg bophook

bophook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

2 \newcommand\*{\AtBeginPage}[1]{}

3 \newcommand\*{\PageLayout}[1]{}

---

File 57 **lwarp-bounddvi.sty**

§ 166 Package **bounddvi**

Pkg bounddvi

bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 58 **lwarp-boxedminipage.sty**

§ 167 Package **boxedminipage**

Pkg boxedminipage

*(Emulates or patches code by SCOTT PAKIN.)*

boxedminipage is emulated for HTML, and used as-is for lateximages.

**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

2 \newenvironment{LWR@HTML@boxedminipage}{%

3 \LWR@stoppars%

4 \begin{BlockClass}{framebox}%

5 \minipage%

6 }

7 {%

8 \endminipage%

9 \end{BlockClass}%

10 \LWR@startpars%

11 }

12 \LWR@Formattedenv{boxedminipage}

---

File 59 **lwarp-boxedminipage2e.sty**

§ 168 Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage2e boxedminipage2e has been renamed boxedminipage by the author.

**for HTML output:** Automatically loads boxedminipage:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 60 **lwarp-braket.sty**

§ 169 Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg braket braket works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3   \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}
```

---

File 61 **lwarp-breakurl.sty**

§ 170 Package **breakurl**

*(Emulates or patches code by VILAR CAMARA NETO.)*

Pkg breakurl breakurl is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```
2 \LetLtxMacro\url\LWR@url
3
4 \NewDocumentCommand{\LWR@urlaltb}{O{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%
7   \LWR@subhyperrefreftext{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\urlalt}{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@urlaltb%
15 }
16
17 \LetLtxMacro\urlalt\urlalt
```

---


File 62 **lwarp-breqn.sty**

§ 171 Package **breqn**

*(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)*

Pkg breqn

**breqn** is patched for use by **lwarp**.

 **darray** **darray** is not supported, and in fact does not work in the print version either.

While using **MATHJAX**, **breqn** objects are converted to **svg** images.**for HTML output:**

```

1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8   \begin{BlockClass}{displaymathnumbered}
9   \LWR@newautoidanchor%
10  \booltrue{LWR@indisplaymathimage}%
11  \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15   \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19   \begin{BlockClass}{displaymath}
20   \LWR@newautoidanchor%
21   \booltrue{LWR@indisplaymathimage}%
22   \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}{
26   \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30   \begin{BlockClass}{displaymathnumbered}
31   \LWR@newautoidanchor%
32   \booltrue{LWR@indisplaymathimage}%
33   \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37   \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41   \begin{BlockClass}{displaymath}
42   \LWR@newautoidanchor%
43   \booltrue{LWR@indisplaymathimage}%
44   \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48   \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52   \begin{BlockClass}{displaymath}
53   \LWR@newautoidanchor%
```

---

```

54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*~ \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 63 **lwarp-bsheaders.sty**

§ 172 Package **bsheaders**

Pkg bsheaders

bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---


File 64 **lwarp-bussproofs.sty**

§ 173 Package **bussproofs**

*(Emulates or patches code by SAMUEL R. BUSS.)*

Pkg bussproofs

bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{% SVG HTML
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs~\PackageDiagramAltText]%
12 }
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }

```

File 65 **lwarp-bxpapersize.sty**§ 174 Package **bxpapersize**

Pkg `bxpapersize` `bxpapersize` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

File 66 **lwarp-bytefield.sty**§ 175 Package **bytefield**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg `bytefield` `bytefield` is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]
2 \BeforeBeginEnvironment{bytefield}{%
3   \begin{lateximage}[-bytefield-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

File 67 **lwarp-cancel.sty**§ 176 Package **cancel**

Pkg `cancel` `cancel` is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]
```

`\cancel` to is math-only, so is used as-is.

`\LWR@cancelcolor` `{\langle text \rangle}{\langle color \rangle}{\langle class \rangle}{\langle colorstyle \rangle}{\langle FormatWPstyle \rangle}`

Add colors if not empty:

```
3 \newcommand{\LWR@cancelcolor}[5]{%
4   \ifcempty{#2}%
5   {\InlineClass{#5}{#3}{#1}}%
6   {\LWRhtmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
7 }
```

`\cancel`

```

{<text>}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%
9 \begingroup%
10 \CancelColor%
11 \LWR@findcurrenttextcolor%
12 \color{black}%
13 \LWR@cancelcolor{#1}{LWR@tempcolor}{sout}{text-decoration-color}%
14   {text-decoration:line-through}%
15 \endgroup%
16 }
17 \LWR@formatted{cancel}%
18
19 \LetLtxMacro\bcancel\cancel
20 \LetLtxMacro\xcancel\cancel

```

For MATHJAX:

```

21 \begin{warpMathJax}
22 \PackageNoteNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}

```

File 68 **lwarp-canonlayout.sty**§ 177 Package **canonlayout**

Pkg canonlayout canonlayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canonlayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

File 69 **lwarp-caption.sty**§ 178 Package **caption***(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘Missing \protect\begin\protect{document\protect}’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5   \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

```

10 \long\def\caption@iibox@#1#2#3#4{%



```

11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iiibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 []% lwarp
15 [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 {{#4}}% lwarp
18 }

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]#8{%
20 \begingroup
21 #1*% set \caption@position
22 \caption@iftop{%
23 \endgroup

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3
45 {\caption#4{#5}}%
46 }%
47 }%
48 }

```

\caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonspaceset\LWR@mynexttoken\LWR@floatalignment}

```

```

61  {}
62  {\LWR@patcherror{caption}{@xfloat}}
63
64  \xapptocmd{\@xdblfloat}
65    {\LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment}
66  {}
67  {\LWR@patcherror{caption}{@xdblfloat}}
68 }

69 \long\def\caption@@@text#1#2#3[#4]#5{%
70   \begin{BlockClass}{figurecaption}%      lwarp
71   \begingroup
72     #3{\csname c@#1\endcsname #4\relax}%
73     #2{\caption@fnum{#1}}{#5}%
74   \endgroup%
75   \end{BlockClass}%                      lwarp
76 }

```

Updates for late patches for scrextend:

```

77 \caption@AtBeginDocument{
78 \IfPackageLoadedTF{lwarp-scrextend}{
79   \LetLtxMacro\captionbelow\caption
80   \LetLtxMacro\captionabove\caption
81   \LetLtxMacro\captionofbelow\captionof
82   \LetLtxMacro\captionofabove\captionof
83 }{}
84 }

```

---

File 70 **lwarp-caption3.sty**

§ 179 Package **caption3**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption3

caption3 is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

\caption@@@make

```

{\caption label} {\caption text}

2 \IfPackageAtLeastTF{caption3}{2020/08/23}{
3 \renewcommand\caption@@@make[2]{%
4 \LWR@traceinfo{caption@@@make}%

5   \LWR@stoppars%                          lwarp

6 %   \sbox\@tempboxa{#1}%
7 %   \ifdim\wd\@tempboxa=\z@
8 %     \caption@set{labelseparator}{none}%
9 %   \fi
10  \caption@ifempty{#2}{%
11    \caption@set{labelseparator}{none}%
12    \caption@set{textformat}{simple}%
13  }%
14  \caption@labelseparator % defines \caption@iflabelfont,

```

```

15 %      \caption@labelsep and \caption@labelsep@name
16 %      (the latter is needed by \caption@fmt)
17 %

```

```

18 % \setpar{\@@par\caption@@par}\caption@@par
19 \caption@applyfont

```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```

20 % \caption@fmt
21 {\ifcaption@star\else
22   \begingroup
23   \caption@labelfont
24   \LWR@isolate{#1}%          lwarp
25   \endgroup
26   \fi}%
27 {\ifcaption@star\else
28   \begingroup
29   \caption@iflabelfont\caption@labelfont
30   \relax\caption@labelsep
31   \endgroup
32   \fi}%
33 {{\caption@textfont
34   \let\\newLine%          lwarp
35 %
36   \caption@textstart
37 %
38 %   {\vrule\@height\ht\strutbox\@width\z@}%
39 %   {}}%
40 %   \nobreak\hskip\z@skip % enable hyphenation
41   \LWR@isolate{\caption@textformat{#2}}%  lwarp
42 %
43 %   {\ifhmode\@finalstrut\strutbox\fi}%
44 %   {}}%
45   \caption@textend}}%
46   \LWR@startpars%          lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49 }% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53   \LWR@stoppars%          lwarp
54 %   \sbox\@tempboxa{#1}%
55 %   \ifdim\wd\@tempboxa=\z@
56 %     \let\caption@lsep\relax
57 %   \fi
58 \caption@ifempty{#2}{%
59   \let\caption@lsep\@empty
60   \let\caption@tfmt\@firstofone
61 }%
62 % \setpar{\@@par\caption@@par}\caption@@par
63 \caption@applyfont

```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```

64 % \caption@fmt

```

```

65   {\ifcaption@star\else
66     \begingroup
67       \captionlabelfont
68       \LWR@isolate{#1}%           lwarp
69     \endgroup
70   \fi}%
71   {\ifcaption@star\else
72     \begingroup
73       \caption@iflfl\captionlabelfont
74       \relax
75       \caption@lsep
76     \endgroup
77   \fi}%
78   {%
79     \captiontextfont
80     \let\\\newLine%           lwarp
81   % \caption@ifstrut
82   %   {\vrule\@height\ht\strutbox\@width\z@}%
83   %   {}%
84   % \nobreak\hskip\z@skip % enable hyphenation
85   % \LWR@isolate{\caption@tfmt{#2}}%       lwarp
86   % \caption@ifstrut
87   %   {\ifhmode\@finalstrut\strutbox\fi}%
88   %   {}%
89   %}%
90   \LWR@startpars%           lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

```

\caption@@make@

```

{\langle} {\rangle}

94 \renewcommand{\caption@@make@[2]{%
95   \caption@stepthecounter%
96   \caption@beginhook%
97 %   \caption@box\hsize{%
98 %   \caption@singlelinecheck{\caption@slc{#1}{#2}\caption@singleline\caption@multiline}{\caption@M
99 %   \caption@calcmargin
100 %   \caption@make@leftmargin
101 %   \caption@make@parbox{%
102 %   \caption@make@indentation
103   \caption@@@make{#1}{#2}%
104 %   }
105 %   \caption@make@rightmargin
106 %   }%
107   \caption@endhook%
108 }

109 \DeclareCaptionBox{none}{#2}
110 \DeclareCaptionBox{parbox}{%
111   #2%
112 }

113 \DeclareCaptionBox{colorbox}{%
114   #2%
115 }

```

File 71 **lwarp-cases.sty**§ 180 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases

**cases** is patched for use by **lwarp**.

While using **MATHJAX**, **cases** objects are converted to **svg** math images. The **MathJax 3.2 cases** package does not yet work with **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2020/03/29]

2 \BeforeBeginEnvironment{numcases}{
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newautoidanchor%
5   \booltrue{LWR@indisplaymathimage}%
6   \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{
10  \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14   \begin{BlockClass}{displaymathnumbered}
15   \LWR@newautoidanchor%
16   \booltrue{LWR@indisplaymathimage}%
17   \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21   \end{lateximage}\end{BlockClass}
22 }

```

File 72 **lwarp-ccicons.sty**§ 181 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

Pkg ccicons

**ccicons** is used as **svg** images for **HTML**.

**for HTML output:**

Discard all options for **lwarp-ccicons**:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
3   {\begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}

```

---

```

8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

### File 73 **lwarp-centerlastline.sty**

#### § 182 Package **centerlastline**

Pkg centerlastline centerlastline is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

---

### File 74 **lwarp-centernot.sty**

#### § 183 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

### File 75 **lwarp-changebar.sty**

#### § 184 Package **changebar**

Pkg changebar changebar is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

2 \newcommand*\cbstart{}
3 \newcommand*\cbend{}
4 \newenvironment*\changebar{}{}
5 \newcommand*\cbdelete{}
6 \newcommand*\nochnagebars{}
7 \newcommand*\cbcolor[1]{}

```

```

8 \newlength{\changebarwidth}
9 \newlength{\delebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

---

File 76 **lwarp-changelayout.sty**

§ 185 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

Pkg changelayout

changelayout is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5   \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9   \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15   \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21   \setkeys[KV]{changelayout}{#1}%
22   \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23     \color{\cpl@textcolor}%
24     \cpl@content
25   \end{BlockClass}
26 }

```

---

File 77 **lwarp-changepage.sty**

§ 186 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

Pkg changepage

changepage is ignored.

**for HTML output:**

Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpagelayout

```

```

3 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\change page}[9]{}
6
7 \ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```


File 78 **lwarp-changes.sty**

§ 187 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

Pkg changes

changes is patched for use by lwarp.

 `\comment` Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3   \IfIsInList{#1}{\Changes@loc@show}{%
4     \LWR@startpars%
5     #2: #3 \qqquad
6     \nameref{\BaseJobname-autopage-#4}%
7     \LWR@stoppars%
8   }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\@empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 }{}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}
19 \def\Changes@loc@style{}%
20 }%
21 \IfIsEmpty{\Changes@loc@style}%
22 {\def\Changes@loc@style{list}}%
23 }{}%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 }{}%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%

```



```

28 {}%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead}
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 {}%
36 \IfIsEmpty{\Changes@loc@title}%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}{%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}{%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}{%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*{\Changes@heading}
47 \IfIsInList{\Changes@loc@style}{list}%
48 {%
49 \IfFileExists{\jobname.\Changes@loc@extension}%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi
58 \repeat
59 \closein\Changes@InFile%
60 }{%
61 \emph{\changesnoloc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {%
67 \IfFileExists{\jobname.\Changes@soc@extension}%
68 {%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@soc@extension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%
74 \expandafter\changes@chopline\Changes@Line\%
75 \textbf{%
76 \IfIsColored%
77 {\color{\Changes@Incolor}}%
78 }%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR@textcurrentcolor{% lwarp
82 \changesauthorname: \changesanonymousname%
83 }% lwarp
84 }%
85 {%
86 \LWR@textcurrentcolor{% lwarp
87 \changesauthorname: \Changes@Inid%

```

```

88   }% lwarp
89 \IfIsEmpty{\Changes@Inname}%
90 {}%
91 { %
92   \LWR@textcurrentcolor{% lwarp
93 (\Changes@Inname)%
94   }% lwarp
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {%
105   \parbox{\Changes@summary@width}{% lwarp
106     \changesnochanges%
107   }% lwarp
108 % \[1ex]% lwarp
109   \par% \lwarp
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*\do}[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%
116 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 % \parbox{\Changes@summary@width}{% lwarp
121 \csuse{changes#####1name}~%
122 % \let\cleaders\leaders\dotfill~% lwarp
123 \dotfill~% \lwarp
124 \csuse{Changes@In#####1}%
125 }% lwarp
126 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
127 {\}%
128 % {\[1ex]}% lwarp
129 }%
130 {}%
131 }%
132 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
133   \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 }{}%
143 }{}%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%

```

```
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{\Changes@todocolor}{authorcolor}}%
152 {\colorlet{\Changes@todocolor}{black}}%
153 \todo[color=\Changes@todocolor!10, bordercolor=\Changes@todocolor, linecolor=\Changes@todocolor!70, no
154 }{}%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 }{}%
161 \LWR@textcurrentcolor{% lwarp
162 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{\Changes@commentCount#2}:} #1%
163 }% lwarp
164 }%
165 }{}%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{% lwarp
170 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{\Changes@commentCount#2}:} #1%
171 }% lwarp
172 }%
173 }{}%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 }{}%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{\Changes@commentCount#2}:} #1%
183 }%
184 }%
185 }{}%
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{\Changes@optiondraft}%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 }{}%
200 }{}%
201 \IfIsColored%
202 {\color{authorcolor}}%
203 }{}%
204 \LWR@textcurrentcolor{% lwarp
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
206 }% lwarp
207 }{}%
```

```

208 }{}%
209 {%
210 \IfStrEq{#1}{highlight}%
211 }{}%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 }{}%
215 }%
216 \LWR@textcurrentcolor{% lwarp
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
219 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
221 }% lwarp
222 }%
223 \IfIsEmpty{#5}%
224 {%
225 \IfIsAuthorEmptyAtPosition{#2}{right}%
226 }{}%
227 {}%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 }{}%
231 \LWR@textcurrentcolor{% lwarp
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
233 }% lwarp
234 }{}%
235 }{}%
236 \stepcounter{Changes@#1Count#2}%
237 }{}%
238 \IfIsEmpty{#5}%
239 }{}%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}}%
247 }{}%
248 }{}%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}%
251 {\def\Changes@locid{~(#{2})}}%
252 \addtocontents{\Changes@locextension}{\protect\ChangesListLine{#1}{#6\Changes@locid}{#7}{\thepage}}
253 }{}%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }{}%
259 }

```

---

File 79 **lwarp-chappg.sty**

§ 188 Package **chappg**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg chappg

chappg is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]
2 \renewcommand{\pagenumbering}[2][{}]{
3 \providecommand{\chappgsep}{--}

```

File 80 **lwarp-chapterbib.sty**§ 189 Package **chapterbib***(Emulates or patches code by DONALD ARSENEAU.)*

Pkg chapterbib

chapterbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]
2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

File 81 **lwarp-chemfig.sty**§ 190 Package **chemfig***(Emulates or patches code by CHRISTIAN TELLECHEA.)*

Pkg chemfig

chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```

\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}

```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]
2 \catcode'\_ =11
3
4 \IfPackageAtLeastTF{chemfig}{2020/03/05}
5 {
6   \xpretocmd\charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}
7     {\LWR@patcherror{chemfig}{charge}}
8   \xpretocmd\Charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]}
9     {\LWR@patcherror{chemfig}{Charge}}
10  \xapptocmd\charge_c{\end{lateximage}}
11    {\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%
15 {% 2019/04/18 or newer

```

```

16 \xpretocmd{\CF_chemfiga}
17   {\begin{lateximage}[-chemfig--\PackageDiagramAltText]}
18   {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20 \xpatchcmd{\CF_chemfigb}
21   {\let\CF_flipstate\CF_zero}
22   {\end{lateximage}\let\CF_flipstate\CF_zero}
23   {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
24
25 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
26 \gdef\CF_lewisc#1,#2\__nil{%
27 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
28 \LWR@chemfig@origCF_lewisc#1,#2\__nil
29 \end{lateximage}
30 }
31
32 \gpreto{\schemestart}{%
33   \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
34 }
35 \gappto{\CF_schemestop}{\end{lateximage}}
36
37}% 2019/04/18 or newer
38{% older than 2019/04/18
39
40 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
41
42 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
43   \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
44   \IfBooleanTF{#1}{%
45     \LWR@chemfig@origchemfig*[#2][#3][#4]%
46   }{%
47     \LWR@chemfig@origchemfig[#2][#3][#4]%
48   }
49   \end{lateximage}%
50 }
51
52 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
53
54 \def\CF@lewis@b#1#2{%
55 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
56 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
57 \end{lateximage}%
58 }
59
60 \preto{\schemestart}{%
61   \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
62 }
63 \appto{\CF@schemestop}{\end{lateximage}}
64
65}% older than 2019/04/18
66
67 \catcode'\_ =8%
68
69
70
71 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
72
73 \def\chemleft#1#2\chemright#3{%
74 \begin{lateximage}[-chemfig--\PackageDiagramAltText]%
75 \LWR@chemfig@origchemleft#1#2\chemright#3%

```

```

76 \end{lateximage}%
77 }
78
79 \LetLtxMacro\LWR@chemfig@origchemup\chemup
80
81 \def\chemup#1#2\chemdown#3{%
82 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
83 \LWR@chemfig@origchemup#1#2\chemdown#3%
84 \end{lateximage}%
85 }

```

File 82 **lwarp-chemformula.sty**

§ 191 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula

chemformula is patched for use by lwarp.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX**

chemformula works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The chemformula package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain chemformula expressions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemformula}[2022/01/23]

2 \ExplSyntaxOn

\ch

Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \RenewDocumentCommand \ch { O{}m }
4 { %

```

To work inside `align` with `\displaymathother`, a simple version must be used to work with chemformula's adaptation to `align`.

```

5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
6 {
7 \chemformula_ch:nn {#1} {#2}% original
8 }

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingledollar*{% lwarp

```

```

13     \textbackslashash{}%
14     ch%
15     \{%
16         \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
17     \}% alt text
18     }{%
19     \protect\LWR@HTMLsanitizedetokenized{%
20         \detokenize\expandafter{#1}%
21     }% add'l hashing
22     }%
23     {%
24         \chemformula_ch:nn {#1} {#2}%    original
25     }%
26     \endgroup%
27 }
28 }

```

\chcpd

Similar to \ch.

```

29 \IfPackageAtLeastTF{chemformula}{2019/10/13}{
30 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
31 {
32     \begingroup%
33     \boolfalse{mathjax}%
34     \LWR@subsingledollar*{% lwarp
35         \textbackslashash{}%
36         chcpd%
37         \{%
38             \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
39         \}%
40     }{%
41         \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
42     }{% original
43     \group_begin:
44         \tl_if_blank:nF {#2}
45         {
46             \keys_set:nn {chemformula} {#1}
47             \__chemformula_save_catcodes:
48             \__chemformula_sanitize:Nn
49                 \l__chemformula_chemformula_tmpa_tl
50                 {#2}
51             \__chemformula_input_compound_no_check:Nv
52                 \l__chemformula_compound_tl
53             \l__chemformula_chemformula_tmpa_tl
54             \__chemformula_prepare_output:Nv
55                 \l__chemformula_compound_tl
56                 \l__chemformula_catcodes_tl
57             \chemformula_write:V \l__chemformula_compound_tl
58         }
59     \group_end:
60     }
61     \endgroup
62 }
63 }% later than 2019/10/13
64 {% earlier than 2019/10/13
65 % \changes{v0.903}{2021/12/18}{\pkg{chemformula}: Improved alt tag sanitization.}
66 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
67 {
68     \begingroup%
69     \boolfalse{mathjax}%

```



```

70 \LWR@subsingledollar*{% lwarp
71   \textbackslash}%
72   chcpd%
73   \{%
74     \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
75   \}%
76 }{%
77   \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
78 }{% original
79 \group_begin:
80   \tl_if_blank:nF {#2}
81   {
82     \keys_set:nn {chemformula} {#1}
83     \__chemformula_save_catcodes:
84     \__chemformula_sanitize:Nn
85     \l__chemformula_chemformula_tmpa_tl
86     {#2}
87     \__chemformula_input_compound_no_check:NV
88     \l__chemformula_compound_tl
89     \l__chemformula_chemformula_tmpa_tl
90     \__chemformula_prepare_output:N \l__chemformula_compound_tl
91     \chemformula_write:V \l__chemformula_compound_tl
92   }
93 \group_end:
94 }
95 \endgroup
96 }
97}% earlier than 2019/10/13

```

 $\backslash$ charrow

If standalone, appears in a regular lateximage.

```

98 \RenewDocumentCommand \charrow { mO{}O{} }
99 {
100   \begin{lateximage}[-chemformula- charrow]
101   \group_begin:
102     \__chemformula_draw_arrow:nnn {#1} {#2} {#3}
103   \group_end:
104   \end{lateximage}
105 }

```

 $\backslash$ chname

If standalone, appears in a regular lateximage, hashed according to contents.

```

106 \RenewDocumentCommand \chname { R(){}R(){} }
107 {
108   \begin{lateximage}*[%
109     \textbackslash}%
110     chname%
111     (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
112     (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%
113   ]*%
114   \chemformula_chwritebelow:nn {#1} {#2}
115   \end{lateximage}
116 }

```

 $\backslash$ chlewis

Placed inline, hashed according to contents and options.

```

117 \RenewDocumentCommand \chlewis { O{}mm }
118 {
119   \begingroup%

```

```

120 \boolfalse{mathjax}%
121 \LWR@subsingledollar*{\textbackslash}chlewis\{#2\}\{#3\}}%
122 {
123   \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
124 }{
125   \chemformula_lewis:nnn {#1} {#2} {#3}
126 }
127 \endgroup%
128 }

```

**lwarp** redefines the \$ character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
129 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

`\chemformula_input_escape_math`

Adds additional escaping for the new dollar definition:

```

130 \cs_gset_protected:Npn \__chemformula_input_escape_math:n #1
131 {
132   \__chemformula_first_last_math:n {#1}
133   \bool_if:NT \l__chemformula_first_last_dollar_bool
134   {
135     \bool_set_true:N \l__chemformula_first_last_math_bool
136     \__chemformula_read_escape_dollar:w #1 \q_nil
137   }
138   \bool_if:NT \l__chemformula_first_last_mathbraces_bool
139   {
140     \bool_set_true:N \l__chemformula_first_last_math_bool
141     \__chemformula_read_escape_mathbraces:w #1 \q_nil
142   }

```

Added by **lwarp**:

```

143   \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% \lwrp
144   {
145     \bool_set_true:N \l__chemformula_first_last_math_bool% \lwrp
146     \__chemformula_read_escape_LWRdollar:w #1 \q_nil% \lwrp
147   }
148 }

```

`\chemformula_read_escape_LWRdollar`

The following parses the contents inside the new dollars.

**lwarp** keeps the dollar as its original math shift until the document starts. While **chemmacros** is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

149 \begingroup
150 \catcode'\$=\active
151
152 \cs_new_protected:Npn \__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
153 {
154   \__chemformula_read_escape_math:n {#1}
155 }
156

```

157 \endgroup

\chemformula\_bool\_set\_if\_first\_last

The following looks at the first and last tokens for delimiters to escape math inside \ch. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```

158 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
159 {
160   \int_zero:N \l__chemformula_tmpa_int
161   \int_zero:N \l__chemformula_tmpb_int
162   \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
163   \tl_map_inline:nn {#2}
164   {
165     \int_incr:N \l__chemformula_tmpb_int
166     \int_compare:nT { \l__chemformula_tmpb_int = 1 }
167     {

```

At the start, the cs\_ version compares control sequences:

```

168     \ifdefstrequal{##1}{#3}% lwarp
169     {
170       \bool_set_true:N #1
171     }% lwarp
172     {}
173   }

```

At the end, compare more control sequences:

```

174   \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
175   {
176     \ifdefstrequal{##1}{#4}
177     {}
178     {
179       \bool_set_false:N #1
180     }
181   }
182 }
183 }

```

\chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

184 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
185 {
186   \bool_set_false:N \l__chemformula_first_last_math_bool
187   \bool_set_false:N \l__chemformula_first_last_dollar_bool
188   \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
189   \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
190   \__chemformula_bool_set_if_first_last:Nnnn
191   \l__chemformula_first_last_dollar_bool
192   {#1}
193   { $ } { $ }
194   \bool_if:NF \l__chemformula_first_last_dollar_bool
195   {
196     \__chemformula_bool_set_if_first_last:Nnnn
197     \l__chemformula_first_last_mathbraces_bool
198     {#1}

```

```
199      { \ ( ) { \ } }
```

Added by lwarp:

```
200      \bool_if:NF \l__chemformula_first_last_mathbraces_bool%   lwarp
201      {
202          \__chemformula_bool_cs_set_if_first_last:NnNN
203          \l__chemformula_first_last_LWRdollar_bool
204          {#1}
205          { \LWR@newsingledollar } { \LWR@newsingledollar }
206          }%   lwarp
207      }
208  }

209 \ExplSyntaxOff
```

---

File 83 **lwarp-chemgreek.sty**

§ 192 Package **chemgreek**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemgreek

chemgreek is patched for use by lwarp.

 **Greek symbols**  
package selection

To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

 **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X**

If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5   { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9   { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff
```

---

File 84 **lwarp-chemmacros.sty**

§ 193 Package **chemmacros**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemmacros

chemmacros is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]
```

svg file hashing assumes that the relevant options are constant for the entire document.

### § 193.1 Changes to the user's document

⚠ `\makepolymerdelims` When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}] }
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

### § 193.2 Code

```
2 \ExplSyntaxOn
```

### § 193.3 Loading packages

Also accept the `lwarp` version:

```
3 \prg_set_conditional:Npnn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4 {
5   \cs_if_exist:cTF {ver@#1.sty}
6     { \prg_return_true: }
7     {
8       \cs_if_exist:cTF {ver@lwarp-#1.sty}
9         { \prg_return_true: }
10        { \prg_return_false: }
11    }
12 }
```

Nullify `hyperref` detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14 {
15   \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

### § 193.4 Loading modules

Patching chemmacros modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

### § 193.5 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env polymerdelims

```
17 \DeclareDocumentEnvironment{polymerdelims}{}
18 {\begin{lateximage}[-chemmacros- polymer]}
19 {\end{lateximage}}
```

Env redoxreaction

*{<space above>} {<space below>}*

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 90.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}
21 {\begin{lateximage}[-chemmacros- redoxreaction]}
22 {\end{lateximage}}
```

### § 193.6 Acid-base

```
23 \AtBeginDocument{
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{
25 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
26
27 \cs_gset_protected:Npn \chemmacros_p:n #1
28 {
29   \begingroup
30   \boolfalse{mathjax}
31   \LWR@subsingledollar*{
32     \textbackslashash{}}%
33   p%
34   \{%
35     \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
36   \}
37   }{
38     chemmacrosp%
39     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
40   }{
41     \group_begin:
42     \mbox
43     {
44       \chemmacros_p_style:n {p}
45       \ensuremath {#1}
46     }
47     \group_end:
48   }
49   \endgroup
50 }
51
52 \RenewDocumentCommand \pH {} {
```

```
53 \begingroup
54 \boolfalse{mathjax}
55 \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
56   \chemmacros_p:n { \chemmacros_formula:n {H} }
57 }
58 \endgroup
59 }
60
61 \RenewDocumentCommand \pOH {} {
62   \begingroup
63   \boolfalse{mathjax}
64   \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
65     \chemmacros_p:n { \chemmacros_formula:n {OH} }
66   }
67 \endgroup
68 }
69
70 \RenewDocumentCommand \pKa {0{}}
71 {
72   \begingroup
73   \boolfalse{mathjax}
74   \LWR@subsingledollar*{\textbackslash}pKa{[]#1{}}{chemmacros #1}{
75     \chemmacros_p:n
76     {
77       \Ka \ifblank {#1} {}
78       { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
79     }
80   }
81 \endgroup
82 }
83
84 \RenewDocumentCommand \pKb {0{}}
85 {
86   \begingroup
87   \boolfalse{mathjax}
88   \LWR@subsingledollar*{\textbackslash}pKb{[]#1{}}{chemmacros #1}{
89     \chemmacros_p:n
90     {
91       \Kb \ifblank {#1} {}
92       { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
93     }
94   }
95 \endgroup
96 }
97
98 \LetLtxMacro\LWR@chemmacros@origKa\Ka
99 \renewcommand*{\Ka}{%
100   \begingroup
101   \boolfalse{mathjax}
102   \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
103     \LWR@chemmacros@origKa%
104   }%
105 \endgroup
106 }
107
108 \LetLtxMacro\LWR@chemmacros@origKb\Kb
109 \renewcommand*{\Kb}{%
110   \begingroup
111   \boolfalse{mathjax}
112   \LWR@subsingledollar*{\textbackslash}Kb}{chemmacros}{%
```

```

113     \LWR@chemmacros@origKb%
114   }%
115   \endgroup
116 }
117
118 \LetLtxMacro\LWR@chemmacros@origKw\Kw
119 \renewcommand*{\Kw}{%
120   \begingroup
121     \boolfalse{mathjax}
122     \LWR@subsingledollar*{\textbackslash}Kw}{chemmacros}{
123       \LWR@chemmacros@origKw
124     }
125   \endgroup
126 }
127
128 }{}% module loaded
129 }% AtBeginDocument

```

### § 193.7 Charges

```

130 \AtBeginDocument{
131   \chemmacros_module_if_loaded:nTF{{charges}}{
132     \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
133   }
134   \cs_gset_protected:Npn \fplus {
135     \begingroup
136       \boolfalse{mathjax}
137       \LWR@subsingledollar*{\textbackslash}fplus}{chemmacros}
138     { \LWR@origensuredmath{\chemformula_fplus:} }
139     \endgroup
140   }
141   \cs_gset_protected:Npn \fminus {
142     \begingroup
143       \boolfalse{mathjax}
144       \LWR@subsingledollar*{\textbackslash}fminus}{chemmacros}
145     { \LWR@origensuredmath{\chemformula_fminus:} }
146     \endgroup
147   }
148
149 }{}% Module loaded.
150 }% AtBeginDocument

```

### § 193.8 Nomenclature

```

151 \AtBeginDocument{
152   \chemmacros_module_if_loaded:nTF{{nomenclature}}{
153     \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
154   }
155   \cs_gset_protected:Npn \chemmacros_charge:n #1
156   {
157     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{
158       {\chemmacros_formula:n { }^{#1} }}
159     {
160       \ifmode
161         {\chemmacros_formula:n { }^{#1} }}
162       \else
163         { \textsuperscript{\ensuremath{#1}} }
164       \fi
165     }
166   }

```



```
167
168 \hook_gput_code:nnn {begindocument/end} {chemmacros}
169 {
170 \protected\def\LWR@HTML@chemprime { \HTMLunicode{2032} }
171 \LWR@formatted{chemprime}
172 }

173 \cs_gset_protected:Npn \__chemmacros_cip:n #1
174 {
175   \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
176   \int_step_inline:nnnn {0} {1} {9}
177   {
178     \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
179     {##1}
180     { { \l__chemmacros_cip_number_tl ##1 } }
181   }
182   {
183     \l__chemmacros_cip_inner_tl
184     \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
185       \l__chemmacros_tmpa_tl
186     }}% lwarp
187   }
188 }

189 \RenewDocumentCommand \Sconf { O{S} } {
190 \begin{lateximage}[\textbackslash{}Sconf{[]#1{}}]*
191   \chemmacros_sconf:n {#1}
192 \end{lateximage}
193 }
194
195 \RenewDocumentCommand \Rconf { O{R} } {
196 \begin{lateximage}[\textbackslash{}Rconf{[]#1{}}]*
197   \chemmacros_rconf:n {#1}
198 \end{lateximage}
199 }

200 \cs_gset_protected:Npn \chemmacros_hapto:n #1
201 {
202   \begingroup
203   \boolfalse{mathjax}
204   \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{chemmacros}{
205     \chemmacros_coordination_symbol:nnnn
206     { \l__chemmacros_coord_use_hyphen_bool }
207     {
208       { \c_true_bool }
209     }
210     { \chemeta }
211     {#1}
212   }
213   \endgroup
214 }
215
216 \cs_gset_protected:Npn \chemmacros_dento:n #1
217 {
218   \begingroup
219   \boolfalse{mathjax}
220   \LWR@subsingledollar*{\textbackslash{}dento\{#1\}}{chemmacros}{
221     \chemmacros_coordination_symbol:nnnn
222     { \l__chemmacros_coord_use_hyphen_bool }
223     {
```

```

224         { \c_true_bool }
225     }
226     { \chemkappa }
227     {#1}
228 }
229 \endgroup
230 }
231
232 \cs_gset_protected:Npn \chemmacros_bridge:n #1
233 {
234     \begingroup
235     \boolfalse{mathjax}
236     \LWR@subsingledollar*{\textbackslash{}bridge\{#1\}}{chemmacros}{
237         \chemmacros_coordination_symbol:nnnn
238         { \l__chemmacros_coord_use_hyphen_bool }
239         { \l__chemmacros_bridge_super_bool }
240         { \chemmu }
241         {#1}
242     }
243     \endgroup
244 }
245 }{}% Module loaded.
246 }% AtBeginDocument

```

### § 193.9 Particles

```

247 \AtBeginDocument{
248 \chemmacros_module_if_loaded:nTF{{particles}}{
249 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
250
251 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
252 {
253     \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
254     {
255         \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
256         {
257             \chemmacros_elpair:n { #2 }
258             { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
259             \chemmacros_formula:n { {}^{}{-} }
260         }
261         { \chemmacros_formula:n { #2^{}{-} } }
262     }
263     \DeclareDocumentCommand #1 {o}
264     {%
265         \begin{lateximage}%
266         \group_begin:%
267             \IfNoValueF {##1}%
268             { \chemmacros_set_keys:nn {particles} {##1} }%
269             \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
270         \group_end:%
271         \end{lateximage}%
272     }
273 }
274
275 \RenewChemNucleophile \Nuc {Nu}
276 \RenewChemNucleophile \ba {ba}
277
278 }{}% Module loaded.
279 }% AtBeginDocument

```

§ 193.10 **Phases**

```

280 \AtBeginDocument{
281 \chemmacros_module_if_loaded:nTF{{phases}}{
282 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
283
284 \cs_undefine:N \chemmacros_phase:n
285 \cs_new_protected:Npn \chemmacros_phase:n #1
286 {

287   \mode_leave_vertical:

288   \bool_if:NTF \l__chemmacros_phases_sub_bool
289     {
290       \ifnumequal{\value{LWR@lateximagedepth}}{0}
291       {
292         \textsubscript{ (#1) }
293       }
294       {
295         \chemformula_subscript:n { (#1) }
296       }
297     }
298     {
299       \skip_horizontal:N \l__chemmacros_phases_space_dim
300       \chemmacros_text:n { (#1) }
301     }
302 }
303
304 }{}% Module loaded.
305 }% AtBeginDocument

```

§ 193.11 **Mechanisms**

```

306 \AtBeginDocument{
307 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
308 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
309
310 \chemmacros_define_keys:nn {textmechanisms}
311 {
312   type      .choice: ,
313   type /    .code:n   =
314   {
315     \__chemmacros_set_mechanisms:nnn { S }
316     {
317       \textsubscript{N}
318     }
319     { }
320   } ,
321   type / 1  .code:n   =
322   {
323     \__chemmacros_set_mechanisms:nnn { S }
324     {
325       \textsubscript{N}
326       1
327     }
328     { }
329   } ,
330   type / 2  .code:n   =
331   {
332     \__chemmacros_set_mechanisms:nnn { S }

```

```

333     {
334         \textsubscript{N}
335         2
336     }
337     { }
338 },
339 type / se .code:n =
340 {
341     \__chemmacros_set_mechanisms:nnn { S }
342     {
343         \textsubscript{E}
344     }
345     { }
346 },
347 type / le .code:n =
348 {
349     \__chemmacros_set_mechanisms:nnn { S }
350     {
351         \textsubscript{E}
352         1
353     }
354     { }
355 },
356 type / 2e .code:n =
357 {
358     \__chemmacros_set_mechanisms:nnn { S }
359     {
360         \textsubscript{E}
361         2
362     }
363     { }
364 },
365 type / ar .code:n =
366 {
367     \__chemmacros_set_mechanisms:nnn { S }
368     {
369         \textsubscript{E}
370     }
371     { Ar - }
372 },
373 type / e .code:n =
374 { \__chemmacros_set_mechanisms:nnn { E } { } { } },
375 type / e1 .code:n =
376 { \__chemmacros_set_mechanisms:nnn { E } { 1 } { } },
377 type / e2 .code:n =
378 { \__chemmacros_set_mechanisms:nnn { E } { 2 } { } },
379 type / cb .code:n =
380 {
381     \__chemmacros_set_mechanisms:nnn { E }
382     {
383         1
384         \textsubscript{cb}
385     }
386     { }
387 },
388 type .default:n =
389 }
390
391 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
392 {

```

```

393 \tl_if_blank:nTF {#1}
394   { \chemmacros_set_keys:nn {textmechanisms} { type } }
395   { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
396 \mbox
397   {
398     \tl_use:N \l__chemmacros_mechanisms_ar_tl
399     \tl_use:N \l__chemmacros_mechanisms_type_tl
400     \tl_use:N \l__chemmacros_mechanisms_mol_tl
401   }
402 }
403
404 \appto\LWR@restoreorigformatting{%
405 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
406   {%
407     \tl_if_blank:nTF {#1}%
408     { \chemmacros_set_keys:nn {mechanisms} { type } }%
409     { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
410     \mbox%
411     {%
412       \tl_use:N \l__chemmacros_mechanisms_ar_tl%
413       \tl_use:N \l__chemmacros_mechanisms_type_tl%
414       \tl_use:N \l__chemmacros_mechanisms_mol_tl%
415     }%
416   }%
417 }
418
419 }{}% Module loaded.
420 }% AtBeginDocument

```

## § 193.12 Newman

There are so many options that it is hard to hash these images for reuse.

```

421 \AtBeginDocument{
422 \chemmacros_module_if_loaded:nTF{{newman}}{
423 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
424
425 \RenewDocumentCommand \newman {od()}m%
426   {
427     \IfValueTF{#2}
428     {\begin{lateximage}[\textbackslash{}newman(#2)\{#3\}]*}
429     {\begin{lateximage}[\textbackslash{}newman\{#3\}]*}
430     \group_begin:
431     \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
432     \IfNoValueTF {#2}
433     { \chemmacros_newman:nn { } {#3} }
434     { \chemmacros_newman:nn {#2} {#3} }
435     \group_end:
436     \end{lateximage}
437   }%
438
439 }{}% Module loaded.
440 }% AtBeginDocument

```

§ 193.13 **Orbital**

```

441 \AtBeginDocument{
442 \chemmacros_module_if_loaded:nTF{{orbital}}{
443 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
444
445 \RenewDocumentCommand \orbital {om}
446 {
447   \IfValueTF{#1}
448   {
449     \begin{lateximage}[%
450       \textbackslash{ }%
451       orbital{[]}%
452       \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
453       {} \{#2\}%
454     ]*[] [margin-left: 1em ; margin-right: 1em]
455   }
456   {
457     \begin{lateximage}[%
458       \textbackslash{ }orbital\{#2\}%
459     ]*[] [margin-left: 1em ; margin-right: 1em]
460   }
461   \group_begin:
462     \chemmacros_set_keys:nn {orbital/type} {#2}
463     \IfNoValueTF {#1}
464       { \chemmacros_orbital:n { } }
465       { \chemmacros_orbital:n {#1} }
466   \group_end:
467   \end{lateximage}
468 }
469
470 }{}% Module loaded.
471 }% AtBeginDocument

```

§ 193.14 **Reactions**

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}
472 \AtBeginDocument{
473 \chemmacros_module_if_loaded:nTF{{reactions}}{
474 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
475
476 % #1: chem
477 % #2: math
478 % #3: args number
479 % #4: argument list ({#2}{#3}...)
480 \cs_gset_protected:Npn \__chemmacros_declare_reaction_env:nnnn #1#2#3#4
481 {
482   \exp_args:Nnx \DeclareDocumentEnvironment {#1}
483     { \int_compare:nT { #3+0 = 0 } {!} 0{} \prg_replicate:nn {#3+0} {m} }
484     {
485       \boolfalse{mathjax}%           lwarp
486       \ifdefvoid{\LWR@ThisAltText}{%   lwarp
487         \ThisAltText{-chemmacros~reaction}% lwarp
488       }{}%                             lwarp
489       \chemmacros_add_reaction_description:n {##1}
490       \__chemmacros_begin_reaction:
491       \__chemmacros_reaction_read:nnw {#2} {#4}
492     }
493   {

```

```

494     \__chemmacros_end_reaction:
495     \gdef\LWR@ThisAltText{%           lwarp
496     \ignorespacesafterend
497     }
498 }
499
500 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
501
502 \RenewChemReaction {reaction} {equation}
503 \RenewChemReaction {reaction*} {equation*}
504 \RenewChemReaction {reactions} {align}
505 \RenewChemReaction {reactions*} {align*}
506
507 }{}% Module loaded.
508 }% AtBeginDocument

```

### § 193.15 Reactants

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

509 \StartDefiningTabulars%           lwarp
510
511 % #1: star: include ID in table
512 \RenewDocumentCommand \printreactants {s}
513 {
514   \group_begin:
515   \chemmacros_set_keys:nn {reactants} { switch = false }
516   \int_step_variable:nNn
517   { \seq_count:N \g_chemnum_initiated_compounds_seq }
518   \l__chemmacros_reactants_tmpa_tl
519   {
520     \seq_put_right:Nx
521     \l__chemmacros_reactants_tmpa_seq
522     {
523       \chemnum_cmpd:nnne { \c_false_bool } { \c_true_bool } {}
524       {
525         \seq_item:NV
526         \g_chemnum_initiated_compounds_seq
527         \l__chemmacros_reactants_tmpa_tl
528       }
529       &
530       \bool_if:nT {#1}
531       {
532         \seq_item:NV
533         \g_chemnum_initiated_compounds_seq
534         \l__chemmacros_reactants_tmpa_tl
535       }
536     }
537     % TODO: expl3-command ??
538     \solvent
539     {
540       \seq_item:NV
541       \g_chemnum_initiated_compounds_seq
542       \l__chemmacros_reactants_tmpa_tl
543     }
544     \tabularnewline
545   }
546   \tl_set:Nx
547   \l__chemmacros_reactants_tmpb_tl

```

```

548     {
549         \seq_item:NV
550         \g_chemnum_initiated_compounds_seq
551         \l__chemmacros_reactants_tmpa_tl
552     }
553     \chemmacros_reactants_list_subreactant:Vn
554     \l__chemmacros_reactants_tmpb_tl
555     {#1}
556 }
557 % TODO: longtable ?
558 %     table customizable?
559 % first draft of two styles
560 \par
561 \noindent
562 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
563 {
564     \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
565     {
566         {xltabular}
567         {
568             \chemmacros_if_package_loaded:nTF {xltabular}
569             {
570                 \bool_if:NTF {#1}
571                 {
572                     \begin {xltabular}
573                     { \textwidth }
574                     { @{}ll>{\raggedright\arraybackslash}X@{} }
575                     }
576                     {
577                         \begin {xltabular}
578                         { \textwidth }
579                         { @{}l>{\raggedright\arraybackslash}X@{} }
580                         }
581                     \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
582                     \end{xltabular}
583                 }
584                 {
585                     \msg_expandable_error:nnnn
586                     {chemmacros}
587                     {package-not-loaded}
588                     { \printreactants }
589                     {xltabular}
590                 }
591             }
592         }{longtable}
593         {
594             \chemmacros_if_package_loaded:nTF {longtable}
595             {
596                 \bool_if:NTF {#1}
597                 {
598                     \begin {longtable}[l]
599                     { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
600                     }
601                     {
602                         \begin {longtable}[l]
603                         { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
604                         }
605                     \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
606                     \end{longtable}
607                 }

```



```
608         {
609             \msg_expandable_error:nnnn
610             {chemmacros}
611             {package-not-loaded}
612             { \printreactants }
613             {longtable}
614         }
615     }
616 }
617 }
618 {
619     \msg_warning:nn {chemmacros} {missing-printreactants-style}
620 }
621 \group_end:
622 }
623
624 % #1: full ID
625 % #2: star, include ID in table
626 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
627 {
628     \chemnum_if_subcompounds:nT {#1}
629     {
630         \int_step_variable:nNn
631         { \chemnum_count_subcompounds:n {#1} }
632         \l__chemmacros_reactants_tmpa_tl
633         {
634             \seq_put_right:Nx
635             \l__chemmacros_reactants_tmpa_seq
636             {
637                 \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
638                 {
639                     \exp_not:n {#1}
640                     \exp_not:V \l_chemnum_compound_separator_tl
641                     \chemnum_get_subcompound:nV
642                     {#1}
643                     \l__chemmacros_reactants_tmpa_tl
644                 }
645             }
646             &
647             \bool_if:nT {#2}
648             {
649                 #1
650                 \l_chemnum_compound_separator_tl
651                 \chemnum_get_subcompound:nV
652                 {#1}
653                 \l__chemmacros_reactants_tmpa_tl
654             }
655             % TODO: expl3-command ??
656             \solvent
657             {
658                 #1
659                 \l_chemnum_compound_separator_tl
660                 \chemnum_get_subcompound:nV
661                 {#1}
662                 \l__chemmacros_reactants_tmpa_tl
663             }
664             \tabularnewline
665         }
666     }
667 }
```

```

668 }
669 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:n {V}
670
671 \StopDefiningTabulars%      lwarp

```

### § 193.16 Redox

```

672 \AtBeginDocument{
673 \chemmacros_module_if_loaded:nTF{{redox}}{
674 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
675
676 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
677 {
678   \IfBooleanTF {#1}
679     { \chemmacros_ox:nnnn {#1} {#2} #3 }
680     { \chemmacros_ox:nnnn { } {#2} #3 }
681 }
682
683 \RenewDocumentCommand \ox { s O{} m }
684 {
685   \begingroup
686   \boolfalse{mathjax}
687   \IfBooleanTF {#1}
688     {
689     \LWR@subsingledollar*{% yes hash
690       \textbackslashash{}%
691       ox*%
692       \{%
693         \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
694       \}% alt
695     }{%
696     star \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
697     }{%
698     \LWR@chemmacros@ox* {#2} {#3}% contents
699     }%
700   }
701   {
702   \LWR@subsingledollar*{% yes hash
703     \textbackslashash{}%
704     ox%
705     \{%
706       \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
707     \}% alt
708     }{%
709     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
710     }{%
711     \LWR@chemmacros@ox {#2} {#3}% contents
712     }%
713   }
714   \endgroup
715 }
716
717 }{% Module loaded.
718 }% AtBeginDocument

```

### § 193.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

719 \AtBeginDocument{
720 \chemmacros_module_if_loaded:nTF{{scheme}}{
721 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
722
723 \ifdefstring{\schemename}{los}{
724 \SetupFloatingEnvironment{scheme}{
725 name = \chemmacros_translate:n {scheme-name}
726 }
727 }{ }
728
729 }{ }% Module loaded.
730 }% AtBeginDocument

```

### § 193.18 Spectroscopy

```

731 \AtBeginDocument{
732 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
733 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
734
735 \cs_gset_protected:Npn \__chemmacros_nmr_base:n #1#2
736 {
737   \group_begin:
738     \tl_use:N \l__chemmacros_nmr_base_format_tl
739     \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
740     {
741       \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
742       \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
743     }
744     \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
745 % \chemmacros_formula:n { ^{#1} }
746 \textsuperscript{#1}
747 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
748 {
749   \bool_if:NTF \l__chemmacros_nmr_parse_bool
750   { \chemformula_ch:nV { } \g__chemmacros_nmr_element_coupled_tl }
751   { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
752 }
753 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
754 \tl_use:N \l__chemmacros_nmr_method_tl
755 \group_end:
756 }
757
758
759 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
760 {
761   \chemmacros_formula:x
762   {
763     \exp_not:V \g__chemmacros_nmr_element_tl
764     \bool_if:NF \l__chemmacros_nmr_position_side_bool
765     {
766       \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
767       { \textsuperscript{\exp_not:n { #1} } } }% lwarp
768       { \textsubscript{\exp_not:n { #1} } } }% lwarp
769 % \exp_not:V \l__chemmacros_nmr_position_tl
770 % \exp_not:n { #1 }
771     }
772   }
773 \bool_if:NT \l__chemmacros_nmr_position_side_bool
774 {
775   \tl_use:N \l__chemmacros_nmr_position_tl

```

```

776     \__chemmacros_nmr_position:n {#1}
777   }
778 }
779
780 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
781 {
782   \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
783     {
784     \l__chemmacros_nmr_coupling_bonds_pre_tl
785     #1
786     \l__chemmacros_nmr_coupling_bonds_post_tl
787   }
788   \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
789     {
790     \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
791       {
792       \c_math_subscript_token
793       \textsubscript% lwarp
794       {
795       \l__chemmacros_nmr_coupling_nuclei_pre_tl
796       \chemmacros_formula:n {#2}
797       \l__chemmacros_nmr_coupling_nuclei_post_tl
798       }
799     }
800   }
801   {
802   \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
803     {
804     \l__chemmacros_nmr_coupling_nuclei_pre_tl
805     \chemmacros_formula:n {#2}
806     \l__chemmacros_nmr_coupling_nuclei_post_tl
807     }
808   }
809   \__chemmacros_nmr_coupling_aux_i:w
810 }
811 \AfterEndPreamble{% After \AtBeginDocument
812 % \NMR{<num>,<elem>}<num>,<unit>[<solvent>] ALL arguments are optional
813 % \NMR* same but without ": $\delta$" at end
814 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
815   {
816   \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
817   \group_begin:

818     \mode_leave_vertical:

819     \bool_set_false:N \l__chemmacros_nmr_frequency_bool
820     \bool_set_false:N \l__chemmacros_nmr_solvent_bool
821     \tl_if_empty:nF {#3}
822     { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
823     \tl_if_empty:nF {#4}
824     { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
825     \bool_if:nT
826     {
827     \l__chemmacros_nmr_frequency_bool
828     ||
829     \l__chemmacros_nmr_solvent_bool
830     }
831     { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
832     \bool_if:nT
833     {

```

```

834     \l__chemmacros_nmr_frequency_bool
835     &&
836     \l__chemmacros_nmr_solvent_bool
837   }
838   { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
839   \tl_if_empty:nTF {#2}
840   {
841     \__chemmacros_nmr_nucleus:VV
842     \l__chemmacros_nmr_isotope_default_tl
843     \l__chemmacros_nmr_element_default_tl
844   }
845   { \__chemmacros_nmr_nucleus:w #2 \q_stop }
846   \mode_if_math:TF
847   {
848     \text
849     {
850       \group_begin:
851       \tl_use:N \l__chemmacros_nmr_format_tl
852       \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
853         \__chemmacros_nmr_base:VV
854         \g__chemmacros_nmr_isotope_tl
855         \g__chemmacros_nmr_element_tl
856         \bool_if:NT \l__chemmacros_nmr_delimiters_bool
857         { ~ ( ) }
858         \bool_if:NT \l__chemmacros_nmr_frequency_bool
859         { \__chemmacros_nmr_frequency:n {#3} }
860         \bool_if:NT \l__chemmacros_nmr_comma_bool
861         { , ~ }
862         \bool_if:NT \l__chemmacros_nmr_solvent_bool
863         { \chemmacros_formula:n {#4} }
864         \bool_if:NT \l__chemmacros_nmr_delimiters_bool
865         { ) }
866         \tl_if_blank:nT {#1} {::~}
867     }}% lwarp
868     \group_end:
869   }
870   \tl_if_blank:nT {#1}
871   {
872     \delta
873     \text { \l__chemmacros_nmr_delta_tl }
874     \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
875   }
876 }
877 {
878   \group_begin:
879   \tl_use:N \l__chemmacros_nmr_format_tl
880   \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
881     \__chemmacros_nmr_base:VV
882     \g__chemmacros_nmr_isotope_tl
883     \g__chemmacros_nmr_element_tl
884     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
885     {~()}
886     \bool_if:NT \l__chemmacros_nmr_frequency_bool
887     { \__chemmacros_nmr_frequency:n {#3} }
888     \bool_if:NT \l__chemmacros_nmr_comma_bool
889     {,~}
890     \bool_if:NT \l__chemmacros_nmr_solvent_bool
891     {
892       \bool_if:NTF \l__chemmacros_nmr_parse_bool

```

```

893 %           { \chemformula_ch:nn { } {#4} }% original
894           {\ch{#4}}% lwarp
895           {#4}
896         }
897     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
898     {}
899 }}% lwarp
900     \tl_if_blank:nT {#1} {:}
901     \group_end:
902     \tl_if_blank:nT {#1}
903     {
904         \tl_use:N \c_space_tl
905         \c_math_toggle_token
906         \delta
907         \c_math_toggle_token
908         \l__chemmacros_nmr_delta_tl
909         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
910     }
911 }
912 \group_end:
913 }
914 }% AfterEndPreamble
915
916
917 \RenewDocumentCommand \chemmacros_data:w { smo }
918 {
919     \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
920     {
921         \tl_use:N \l__chemmacros_nmr_format_tl #2
922         \tl_use:N \l__chemmacros_nmr_format_tl
923         \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
924             #2
925             \IfNoValueF {#3} { ~ ( #3 ) }
926             \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
927         }}% lwarp
928     }
929     \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
930 }
931
932 }{}% Module loaded.
933 }% AtBeginDocument

```

## § 193.19 Thermodynamics

```

934 \AtBeginDocument{
935 \chemmacros_module_if_loaded:nTF{{thermodynamics}}{
936 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
937
938 \cs_gset_protected:Npn \chemmacros_state:nnnnn #1#2#3#4#5#6
939 {
940     \group_begin:
941     \chemmacros_set_keys:ne {thermodynamics}
942     {
943         \exp_not:n {#1} ,
944         \tl_if_novalue:nF {#2} { subscript-left = \exp_not:n {#2} , }
945         \tl_if_novalue:nF {#3} { superscript-left = \exp_not:n {#3} , }
946         \tl_if_novalue:nF {#5} { subscript-right = \exp_not:n {#5} , }
947         \tl_if_novalue:nF {#6} { superscript-right = \exp_not:n {#6} }
948     }
949     \LWR@subsingledollar*{% yes hashing

```

```

950     \textbackslash{}state%
951     {\LWR@HTMLsanitizeddetokenized{\detokenize{#4}}\}% alt
952   }{%
953     chemmacros_state% add'l hashing
954     #1% options
955     LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
956     LSB \tl_use:N \l__chemmacros_state_sb_left_tl
957     RSP \tl_use:N \l__chemmacros_state_sp_right_tl
958     RSB \tl_use:N \l__chemmacros_state_sb_right_tl
959   }
960   {
961     \LWR@origensuredmath
962     {
963       \chemmacros_text:V \l__chemmacros_state_pre_tl
964       \c_math_superscript_token
965       { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

966     \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
967     {}
968     {
969       \c_math_subscript_token
970       { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
971     }
972     #4
973     \c_math_superscript_token
974     { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
975     \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
976     {}
977     {
978       \c_math_subscript_token
979       { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
980     }
981     \chemmacros_text:V \l__chemmacros_state_post_tl
982   }
983 }
984 \group_end:
985 }
986 \cs_generate_variant:Nn \chemmacros_state:nnnnn { nVVVVV }
987
988 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
989 {
990   \chemmacros_define_keys:xn
991     {thermodynamics/\chemmacros_remove_backslash:N #1}
992   {
993     pre      .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
994     post     .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
995     superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
996     superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
997     superscript      .meta:n  = { superscript-right = ##1 } ,
998     subscript-left   .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
999     subscript-right  .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1000    subscript        .meta:n   = { subscript-left = ##1 } ,
1001    subscript-pos     .choices:nn =
1002      { left , right }
1003    { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1004    symbol            .tl_set:N = \l__chemmacros_state_symbol_tl ,
1005    unit              .tl_set:N = \l__chemmacros_state_unit_tl

```

```

1006     }
1007     \DeclareDocumentCommand #1 { sO{ }D{ }m }
1008     {
1009         \group_begin:
1010         \chemmacros_set_keys:en
1011         {thermodynamics/\chemmacros_remove_backslash:N #1}
1012         {#2}
1013         \tl_if_blank:nF {##3}
1014         {
1015             \chemmacros_set_keys:ne {thermodynamics}
1016             { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1017         }
1018 %     \LWR@origensuredmath
1019 %     {
1020         \chemmacros_state:nVVVVV
1021         {##2}
1022         \c_novalue_tl
1023         \c_novalue_tl
1024         \l__chemmacros_state_symbol_tl
1025         \c_novalue_tl
1026         \c_novalue_tl
1027         \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1028         \IfBooleanF {##1} { = \qty {##4} { \l__chemmacros_state_unit_tl } }
1029 %     }
1030     \group_end:
1031     }
1032 }

```

The pre-existing macros are redefined with the new definition:

```

1033 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1034 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1035 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1036
1037 }{}% Module loaded.
1038 }% AtBeginDocument

1039 \ExplSyntaxOff

```

---

File 85 **lwarp-chemnum.sty**

§ 194 Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

**chemnum** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6     \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7     \group_begin:
8     \bool_if:NTF \l__chemnum_compound_local_bool
9     { \l__chemnum_local_label_format_tl }

```

Pkg chemnum



```

10     { \chemnum_get_compound_property:nn {#1} {label-format} }
11   {
12     \LWR@textcurrentfont{
13       \chemnum_get_compound_property:nn {#1} {counter-representation}
14     }
15   }
16   \group_end:
17   \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22   \group_begin:
23   \bool_if:NTF \l__chemnum_compound_local_bool
24     { \l__chemnum_local_label_format_tl }
25     { \chemnum_get_compound_property:nn {#1} {label-format} }
26   {
27     \LWR@textcurrentfont{
28       \chemnum_get_subcompound_property:nnn {#1} {#2}
29       {counter-representation}
30     }
31   }
32   \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 86 **lwarp-chkfloat.sty**

§ 195 Package **chkfloat**

Pkg chkfloat

chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 87 **lwarp-chngpage.sty**

§ 196 Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg chngpage

chngpage is ignored.

**for HTML output:** Discard all options for lwarp-chngpage:

```

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}

```

---

File 88 **lwarp-cite.sty**

§ 197 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cite

cite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6   \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citepunct{}{\, \, \relax}
```

---

## File 89 lwarp-citeref.sty

### § 198 Package **citeref**

*(Emulates or patches code by BJÖRN BRIEL.)*

Pkg citeref

citeref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```
2 \def\@cprwrite#1={%
3   \write\@auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citepageref#1#2{%
7   \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
8   \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
9   \ifx\cpr@testa\cpr@testb%
10    \relax% Konsekutive identische Seitenangaben weglassen
11   \else%
12    \namexdef{cpr@last@#1}{#2}%
13    \ifundefined{cpr@#1}%
14    {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
15    {% lwarp
16    \namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
17    \LWR@refwithsection{\BaseJobname-autopage-#2}}}%
18    }%
19   \fi
20 }
```

---

## File 90 lwarp-CJK.sty

### § 199 Package **CJK**

Pkg CJK

CJK does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{}{
2   \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

---

File 91 **lwarp-CJKutf8.sty**

§ 200 Package **CJKutf8**

Pkg CJKutf8

CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{}{
2   \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

File 92 **lwarp-classicthesis.sty**

§ 201 Package **classicthesis**

Pkg classicthesis

*(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)*

classicthesis is emulated.

**for HTML output:** Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrttime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*{\deactivateadvspace}{}%
20 \newlength{\beforebibskip}
```

File 93 **lwarp-cleveref.sty**

§ 202 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

Pkg cleveref

cleveref is patched for HTML, and limited MATHJAX emulation is added.



### cleveref page numbers

cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 733 to redefine the message which is printed for page number references.

Table 16 on page 494 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.



### multiple labels

**for HTML output:** 1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

`\@templabel` becomes the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5   \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
6 }{
7   \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8     \renewcommand*{\@@@setcref}[2]{%
9       #1{\ref{#2}}{}}
10  }{
11    \PackageWarningNoLine{lwarp-cleveref}{
12      Unknown version of cleveref.
13      \protect\cref\space will fail.
14    }%
15  }
16 }
```

```
\@@@setcrefrange {<text>} {<label>} {<label>}
```

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18   \cref@getlabel{#2}{\@labela}%
19   \cref@getlabel{#3}{\@labelb}%
20   #1{\@labela}{\@labelb}{\@labelc}{\@labeld}}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23   \renewcommand{\@@@setcrefrange}[3]{%
24     #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}}%
25   }
26 }{
27   \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
28     \renewcommand{\@@@setcrefrange}[3]{%
29       #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}}%
30     }
31   }{
32     \PackageWarningNoLine[lwarp-cleveref]{
33       Unknown version of cleveref.
34       \protect\crefrange\space will fail.
35     }
36   }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*{\cpagerefFor}{for}
```

`\@@@setcpageref` `{\langle typeofref \rangle}{\langle label \rangle}`, where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{\@label}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43   \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{\@label}}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
46   \renewcommand*{\@@@setcpageref}[2]{%
47     #1{\cpagerefFor\ \cref{#2}}{\@label}}%
48   }
49 }{
50   \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
51     \renewcommand*{\@@@setcpageref}[2]{%
52       #1{\cpagerefFor\ \cref{#2}}{\@label}}%
53     }
54   }
55   {
56     \PackageWarningNoLine[lwarp-cleveref]{
57       Unknown version of cleveref.
58       \protect\cpageref\space will fail.
59     }
60   }
61 }

62 \def\LWR@orig@@@setcpagerefrange#1#2#3{% before v0.21
63   \cref@getpageref{#2}{\@pagea}%
64   \cref@getpageref{#3}{\@pageb}%
65   #1{\@pagea}{\@pageb}{\@labelc}{\@labeld}}%
66

```

```

67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68   \cpageref@getlabel{#2}{\@pagea}%
69   \cpageref@getlabel{#3}{\@pageb}%
70   #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
71
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
73   \renewcommand*\@@setcpagerefrange}[3]{%
74     #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagea}{\@pageb}%
75   }
76 }{
77   \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78     \renewcommand*\@@@setcpagerefrange}[3]{%
79       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagea}{\@pageb}{\@pagec}%
80     }
81   }
82   {
83     \PackageWarningNoLine{lwarp-cleveref}{
84       Unknown version of cleveref.
85       \protect\cpagerefrange\space will fail.
86     }
87   }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \IfPackageLoadedTF{varioref}{
100   \LWR@absorbstar{vref}
101   \LWR@absorbstar{Vref}
102   \LWR@absorbstar{vrefrange}
103   \LWR@absorbstar{Vrefrange}
104   \LWR@absorbstar{fullref}
105   \LWR@absorbstar{Fullref}
106 }{\}% varioref

107 \IfClassLoadedTF{memoir}{
108   \AtBeginDocument{
109     \def\sf@memsub@label(#1)#2{%
110       \protected@edef\mem@currentlabelname{#1}%
111       \sf@memsub@label{#2}}
112   }
113 }{}

114 \IfPackageLoadedTF{subfig}{

```

```

115 \def\sf@sub@label(#1)#2{%
116   \ifhyperrefloaded
117     \protected@edef\@currentlabelname{%
118       \expandafter\strip@period #1\relax.\relax\@@}%
119   \fi
120   \sf@@@sub@label{#2}}
121 }{}

```

---

File 94 **lwarp-clrdblpg.sty**

§ 203 Package **clrdblpg**

Pkg clrdblpg

clrdblpg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

---


File 95 **lwarp-cmbright.sty**

§ 204 Package **cmbright**

Pkg cmbright

*(Emulates or patches code by WALTER SCHMIDT.)*

cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}
9 {
10   \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

---

File 96 **lwarp-cmdtrack.sty**

§ 205 Package **cmdtrack**

Pkg cmdtrack

cmdtrack is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]
2 \newcommand{\untrack}[1]{}
```

---

File 97 **lwarp-colonequals.sty**

§ 206 Package **colonequals**

Pkg colonequals

*(Emulates or patches code by HEIKO OBERDIEK.)*

colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}\! =}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\! =}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\! \approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\! \approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}\! \sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\! \sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\unicode{x2237}}}}
23 \end{warpMathJax}
```



File 98 **lwarp-color.sty**§ 207 Package **color**

Pkg color

Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```


`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
3 \let\color@endgroup\endgroup
```

File 99 **lwarp-colortbl.sty**§ 208 Package **colortbl**

Pkg colortbl

`colortbl` is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

```
[<model>] {<color>} [<left overhang>] [<right overhang>]
```

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

`\columncolor` is provided here to satisfy `\LWR@formatted's` test for the existence of the print-mode macro.

```
4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7   \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8   \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

`\columncolor`

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*]

```
12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13   \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14   \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

`\cellcolor` [*model*] {*color*} [*left overhang*] [*right overhang*]

```
18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19   \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20   \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

`\arrayrulecolor` [*model*] {*color*}

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```
24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

[*model*] {*color*}

`\LWR@arrayrulecolornexttoken` The HTML version for use inside a tabular.

```
29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31   \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

`\doublerulesepcolor` [*model*] {*color*}

The version for use outside a tabular.

```
35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

[*model*] {*color*}

`\LWR@doublerulesepcolornexttoken` The version for use inside a tabular.

```
38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```
41 \begin{warpMathJax}
```

```

42
43 \CustomizeMathJax{\require{colortbl}}
44 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
45 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
46   \LWRorigcolumncolor[#1]{#2}%
47   \LWRabsorbtwooptions%
48 }}
49
50 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
51 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
52   \LWRorigrowcolor[#1]{#2}%
53   \LWRabsorbtwooptions%
54 }}
55
56 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
57 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
58   \LWRorigcellcolor[#1]{#2}%
59   \LWRabsorbtwooptions%
60 }}
61
62 \end{warpMathJax}

```

---

File 100 **lwarp-continue.sty**

§ 209 Package **continue**

Pkg continue

continue is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

```

2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

File 101 **lwarp-copyrightbox.sty**

§ 210 Package **copyrightbox**

*(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)*

Pkg copyrightbox

copyrightbox is emulated for use by lwarp.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a <div> of class copyrightboxcontents.

The copyright notice is placed inside a <div> of class copyrightboxnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4   display: inline-flex;
5   flex-direction: column ;
6 ]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 102 **lwarp-crop.sty**

§ 211 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg crop

crop is ignored.

**for HTML output:** Discard all options for lwarp-crop:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]
2 \newcommand*{\crop}[1][{}]{
3 \newcommand*{\cropdef}[6][{}]{

```

---


File 103 **lwarp-ctable.sty**

§ 212 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

Pkg ctable

ctable is patched for use by lwarp.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][{}]{%
3   \let\@CTtaborfig \@dfLTtaborfig
4   \let\@CTalign \@dfLTalign
5   \let\@CTsideways \@dfLTsideways
6   \let\@CTcontinued \empty
7   \let\@CTpos \@dfLTpos
8   \let\@CTcaption \empty

```

```

 9  \let\@CTcap      \undefined
10  \let\@CTlabel    \empty
11  \let\@CTbotcap   \@df\CTbotcap
12  \let\@CTstarred \@df\CTstarred
13  \let\@CTsuper    \@df\CTsuper
14  \let\@CTnotespar \@df\CTnotespar
15  \let\@CTdoinside \@df\CTdoinside
16  \let\@CTbgopacity \@df\CTbgopacity
17  \@CTframerule    \@df\CTframerule
18  \@CTcaptionskip  \@df\CTcaptionskip
19  \@CTframesep     \@df\CTframesep
20  \@CTwidth        \@df\CTwidth
21  \@CTmaxwidth     \@df\CTmaxwidth
22  \@CTmincapwidth  \@df\CTmincapwidth
23  \@CTfooterwidth  \@df\CTfooterwidth
24  \def\@CTfgactual {\@df\CTframefg}%
25  \def\@CTbgactual {\@df\CTframebg}%
26  \def\@CTbeg      {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27  \def\@CTbegin    {\@CTbeg}%
28  \def\@CTend      {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29  \setkeys{CT}{#1}%
30  \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31  \ifx\@CTcap\empty
32    \if@CTcaptionloaded\else
33      \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34        An empty cap= option prevents lot/loc entry only\MessageBreak
35        if the caption package is loaded!}
36    \fi
37  \fi
38  \if@CTinmemoir\else
39    \ifx\@CTbotcap\undefined
40      \PackageError{lwarp-ctable}{\MessageBreak
41        You can, currently, use the sidecap option only with\MessageBreak
42        memoir documents. Use topcap or botcap only}
43      {}
44    \fi
45  \fi
46  \ifdim\@CTwidth=0pt\else
47    \ifdim\@CTmaxwidth=0pt\else
48      \PackageError{lwarp-ctable}{\MessageBreak
49        You may not use the width and maxwidth options together\MessageBreak
50        Use either width or maxwidth}
51      {}
52    \fi
53  \fi
54  \ifx\@CTpos\empty
55    \ifx\@CTsideways\empty\else
56      \PackageError{lwarp-ctable}{\MessageBreak
57        You may not use the pos and sideways options together\MessageBreak
58        Rotated tables and figures are always typeset on a separate page}
59      {}
60    \fi
61  \fi
62  \ifx\@CTcaption\empty
63    \ifx\@CTlabel\empty\else
64      \PackageError{lwarp-ctable}{\MessageBreak
65        You may not label a captionless table\MessageBreak
66        Such a label can't be referenced}
67      {}
68    \fi

```

69 \fi

Some of the original, regarding computing the width of \CT@t, is removed here.

```
70 \CTbegin
71 \ifx\CTcontinued\empty\else\addtocounter{\CTtaborfig}{-1}\fi
72 \CTalign
```

lwarp's patches begin here:

```
73 \begin{center}
74 \setlength{\fboxrule}{\CTframerule}
75 \setlength{\fboxsep}{\CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{}%
85 background: \LWR@colorstyle{named}{\CTbgactual} ; %
86 ]%
87 ]{fminipage}% lwarp
88 \ifx\CTbotcap\CTfalse\CTCaption\vskip\CTcaptionskip\fi
89 \ifx\CTbotcap\undefined%
90 \begin{sidecaption}[\CTcap]{\CTcaption}[\CTlabel]
91 \fi
92 \CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\CTbotcap\CTtrue\vskip\CTcaptionskip\CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \CTend
108 }
109 \LWR@formatted{ctable}
```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```
111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
```

```

116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117   \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 104 **lwarp-cuted.sty**

§ 213 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg cuted

cuted is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak#1{}

```

---

File 105 **lwarp-cutwin.sty**

§ 214 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg cutwin

cutwin is emulated.

**for HTML output:** Discard all options for lwarp-cutwin:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22

```

```

23 \newcommand*{\putstuffinpic}{}
24
25 \newcommand*{\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 106 **lwarp-dblfloatfix.sty**

§ 215 Package **dblfloatfix**

Pkg dbfloatfix dbfloatfix is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 107 **lwarp-dblfnote.sty**

§ 216 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg dblfnote dblfnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 108 **lwarp-dcolumn.sty**

§ 217 Package **dcolumn**

Pkg dcolumn dcolumn is used as-is in a lateximage, and is emulated by the lwarp core.

dcolumn used to be \LWR@ProvidesPackageDrop in prior versions of lwarp, but is now supported for print mode.

1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]

Due to how the D column is created, cannot use \HTMLnewcolumn type here. An HTML version neutralizes the lower-level macros, leaving a c column type.

```

2 \newcommand*{\LWR@HTML@DC@}[3]{}

```



---

```

3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}
6
7 \newcommand*\LWR@HTML@DC@end{}
8 \LWR@formatted{DC@end}

```

---

File 109 **lwarp-decimal.sty**

§ 218 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

Pkg decimal

decimal works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}

```

---

File 110 **lwarp-decorule.sty**

§ 219 Package **decorule**

*(Emulates or patches code by PETER FLYNN.)*

Pkg decorule

decorule is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

2 \xpretocmd{\decorule}
3   {\begin{lateximage}*{decorule}}
4   {}
5   {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{decorule}{decorule B}}

```

---

File 111 **lwarp-diagbox.sty**

§ 220 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

Pkg diagbox

diagbox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

```

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }

```

\LWR@diagbox@AB

```

{\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}
9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }

```

\LWR@diagboxNW

```

{\langle A \rangle} {\langle B \rangle}
17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

\diagbox@double

```

{\langle keys \rangle} {\langle A \rangle} {\langle B \rangle}
26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

\LWR@diagboxTNW

```

{\langle title \rangle} {\langle A \rangle} {\langle B \rangle}
30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%

```

```

40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

\diagbox@triple

```

{<keys>}{<A>}{<T>}{<B>}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

File 112 **lwarp-dingbat.sty**§ 221 Package **dingbat***(Emulates or patches code by SCOTT PAKIN.)*

dingbat is patched for use by lwarp.

Pkg dingbat

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*\LWR@dingbatsymbol}[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}

```

```

31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 113 **lwarp-DotArrow.sty**

§ 222 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow

DotArrow is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{\#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}

```

---


File 114 **lwarp-dotlessi.sty**


§ 223 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg dotlessi

dotlessi is used as-is for SVG math, and is emulated for MATHJAX.

 **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For MATHJAX, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

---

File 115 **lwarp-dprogress.sty**

§ 224 Package **dprogress**

Pkg dprogress

dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 116 **lwarp-draftcopy.sty**

§ 225 Package **draftcopy**

Pkg draftcopy

draftcopy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 117 **lwarp-draftfigure.sty**

§ 226 Package **draftfigure**

Pkg draftfigure

draftfigure is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]  
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 118 **lwarp-draftwatermark.sty**

§ 227 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg draftwatermark **draftwatermark is ignored.**

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

---

File 119 **lwarp-drftcite.sty**

§ 228 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg drftcite **drftcite is patched for use by lwarp.**

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \def\@lbibitem[#1]#2{\global\@HighCite\z@
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
5 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
6 {Reference ‘#2’ on page \thepage\space was never cited}}}%
7% \DC@llap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%o
8 \@citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

---

File 120 **lwarp-easy-todo.sty**

§ 229 Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg easy-todo **easy-todo is patched for use by lwarp.**

To remove the “P.” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos

Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii

Modified to use \textcolor instead of \color.

```
10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12   {%
13     \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
14   }%
15 }%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17   {%
18     \refstepcounter{todos}%
19     \noindent{%
20       \todocolor%
21       \LWR@textcurrentcolor{%
22         \normalfont\scriptsize\bfseries{\thetodos.#1}}%
23       }%
24     }%
25     \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{#2}}%
26   }%
27 }%
28 }
```

---

File 121 **lwarp-ebook.sty**

§ 230 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg ebook

**ebook** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ebook}

```
2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefilll}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }
```

File 122 **lwarp-econometrics.sty**

§ 231 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg econometrics

econometrics is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}

```



```

48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{\mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][\%
74   \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}\, \#3^{\#1}}\%
75 ]}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][\%
77   \frac{\partial^{\#1}\#2}{\partial \#3^{\#1}}\%
78 ]}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}

```

```

108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\rightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\rightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\rightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm\cal I}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm\cal H}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm\imath}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 123 **lwarp-ed.sty**

§ 232 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

**ed** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

**Bugs:**

1. `todolist` fails with the `hide` option, as does `\edexplanation`.
2. `\edstubURI` is actually `\edstuURI`.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6   \def@test{#1}%
7   \begin{center}%
8     \huge%
9     \textcolor{red}{%
10      #1 is only a provisional stub\\Large
11      the Office document
12      \ifx\ed@stubURI@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi
13      contains more text\\which will be merged for the final document%
14    }%
15  \end{center}%
16  \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 124 **lwarp-ellipsis.sty**

§ 233 Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

Pkg ellipsis

ellipsis is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}

```

---

File 125 **lwarp-embrac.sty**

§ 234 Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg embrac

embrac is patched for HTML and used as-is for print.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]
2
3 \ExplSyntaxOn
4 \RenewDocumentCommand{\embrac_kern:n}{m}{}
5 \ExplSyntaxOff
6
7 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
8 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
9
10 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
11 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
12
13 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl
14 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
15
16 \ifxetexorluatex
17 \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
18 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
19 \LWR@orig@HTML@textsi{#2}}
20 \fi
21
22 \AtBeginDocument{
23 \LWR@formatted{emph}
24 \LWR@formatted{textit}
25 \LWR@formatted{textsl}
26 \ifxetexorluatex
27 \LWR@formatted{textsi}
28 \fi

```

---

```

29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

File 126 **lwarp-emptypage.sty**

§ 235 Package **emptypage**

Pkg emptypage

emptypage is ignored.

**for HTML output:** Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 127 **lwarp-endfloat.sty**

§ 236 Package **endfloat**

Pkg endfloat

endfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 128 **lwarp-endheads.sty**

§ 237 Package **endheads**

Pkg endheads

endheads is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13   \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestru
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19   \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22   \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

---

File 129 **lwarp-endnotes.sty**

§ 238 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

Pkg endnotes

Patched for HTML.

[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional


```

[HTML page](#) To additionally have the endnotes on their own HTML page, if FileDepth allows:

```

\ForceHTMLPage
\theendnotes

```

 [\endnotemark numbering](#) If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

**for HTML output:** 1 \LWR@ProvidesPackagePass{endnotes}

```

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

```

```

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}\normalfont\theenmark}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}

```

To nullify the endnotes:

```

13 \apptocmd{\LWR>nullifyfootnotes}{%
14   \renewcommand{\endnote}[2][{}]%
15   \renewcommand{\endnotemark}[1]{}%
16 }{}{}

```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \def\endnotename{endnote}
19 \appto\LWR@synctotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
20 \appto\LWR@synctotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}
21 \CustomizeMathJax{\def\LWRendnote{1}}
22 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
23 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
24 \end{warpMathJax}

```

---

File 130 **lwarp-engt1c.sty**

§ 239 Package **engt1c**

(Emulates or patches code by CLAUDIO FIANDRINO.)

engt1c is patched for use by lwarp. MATHJAX is emulated.



For MATHJAX, \sight, \signf, \signn, and \signz do not force letter case as they do in SVG math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{engt1c}[2012/12/18]
2 \newcommand{\LWR@HTML@fines}{%
3   \begin{BlockClass}[text-align:right]{exerend}%
4   \HTMLunicode{220E}%
5   \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engt1c}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\, \mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}

```

```
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
```

```

83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{MiB}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109   \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114   #1\mathopen{}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\text{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\text{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\right\vert#1\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\right\vert#1\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129   \mathopen{}\left.#1\right\vert_{\mathrm{dB}}\mathclose{}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert_{\#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{} \mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\Gamma}}

```



```

143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathrm{k}}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\mathrm{#1}}}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\mathrm{#1}}}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\mathrm{#1}}}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\mathrm{#1}}}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\mathrm{#1}}}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\mathrm{#1}}}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\mathrm{#1}}}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf\mathrm{#1}}}}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\mathrm{#1}}}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf\mathrm{#1}}}}
169 \CustomizeMathJax{\newcommand{\zvvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{\mathrm{#1}(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\mathrm{#1}(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\mathrm{#1}(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\mathrm{#1}(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\mathrm{#1}\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\mathrm{#1}\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\mathrm{#1}\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , | \ ,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}

```

```

203 \CustomizeMathJax{\let\light\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltainp\deltain}
208 \CustomizeMathJax{\let\Vgamma\gammaten}
209 \CustomizeMathJax{\let\Cgamma\gammacor}
210 \CustomizeMathJax{\let\Vgammain\gammatenin}
211 \CustomizeMathJax{\let\Cgammain\gammacorin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe}
223 \CustomizeMathJax{\let\phasorHfield\campoh}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 131 **lwarp-enotez.sty**

§ 240 Package **enotez**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg enotez

**enotez** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by **lwarp**, so it is forced on for **enotez**:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4   \bool_set_true:N \l__enotez_hyperref_bool
5   \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or \hbox the \hypertarget:

```

7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
11 {
12   \bool_if:NTF \l__enotez_hyperfootnotes_bool
13   {
14     \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
15     \bool_if:NT \l__enotez_hyperbackref_bool
16     {
17       \box_move_up:nn {1em} {

```

```

18%             \hbox:n {
19               \hypertarget {enz.#1.backref} { }
20%             }
21%         }
22     }
23 }
24 { \notezwritemark { \markstyle #2 } }
25 }
26 \cs_generate_variant:Nn \notez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

27 \cs_gset_protected:Npn \notez_write_list_number:n #1
28 {
29   \bool_if:NT \l__enotez_hyperfootnotes_bool
30   {
31%     \box_move_up:nn {1em} { \hbox:n {
32%       \hypertarget {enz.#1} { }
33%     } }
34   }
35   \tl_use:N \l__enotez_list_number_format_tl
36   \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
37   {
38     \bool_if:nTF
39     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
40     {
41       \exp_args:Nnx
42       \hyperlink {enz.#1.backref}
43       { \exp_not:V \l__enotez_endnote_mark_tl }
44     }
45     { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
46   }
47   {
48     \bool_if:nTF
49     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
50     {
51       \exp_args:Nnx
52       \hyperlink {enz.#1.backref}
53       { \exp_not:V \l__enotez_endnote_mark_tl }
54     }
55     { \tl_use:N \l__enotez_endnote_mark_tl }
56   }
57 }

```

Do not move the label to the left:

```

58 \DeclareTemplateCode {enotez-list} {paragraph} {1}
59 {
60   heading      = \enotez_list_heading:n      ,
61   format       = \l__enotez_list_format_tl   ,
62   number       = \enotez_list_number:n      ,
63   number-format = \l__enotez_list_number_format_tl ,
64   notes-sep    = \l__enotez_list_notes_sep_dim
65 }
66 {
67   \AssignTemplateKeys
68   \enotez_set_toc:
69   \enotez_list_heading:n { \l__enotez_list_name_tl }
70   \enotez_list_preamble:
71   \enotez_build_print_list:nnnn {#1}

```

```

72     {}
73     {
74         \par\noindent
75         \group_begin:
76         \tl_use:N \l__enotez_list_format_tl
77 %         \hbox_overlap_left:n
78 %         {
79             \enotez_list_number:n
80             { \enotez_write_list_number:n {##1} }
81             \tl_use:N \c_space_tl
82 %         }
83         % \cs_set:cpn {@currentlabel}
84         % { \p@endnote \l__enotez_endnote_mark_tl }
85         \tl_use:N \g__enotez_endnote_text_tl
86         \par
87         \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
88         { \addvspace { \l__enotez_list_notes_sep_dim } }
89         \group_end:
90     }
91     {}
92     \enotez_list_postamble:
93 }
94
95 \ExplSyntaxOff

```

For MATHJAX:

```

96 \begin{warpMathJax}
97 \def\endnotename{endnote}
98 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
99 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def\LWRendnote{1}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
103 \end{warpMathJax}

```

---

File 132 **lwarp-enumerate.sty**

§ 241 Package **enumerate**

Pkg enumerate

enumerate is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by lwarp and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 133 **lwarp-enumitem.sty**

§ 242 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg enumitem

enumitem is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}
```

For enumitem lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*{\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 134 **lwarp-epigraph.sty**

§ 243 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg epigraph

epigraph is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4   \begin{BlockClass}{qitem}%
5   #1%
6   \LWR@stoppars%
7   \ifbool{FormatWP}%
8     {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9     {\begin{BlockClass}{epigraphsource}}%
10  #2%
11  \end{BlockClass}%
12  \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}
```

epigraph: Added ARIA role.

```
15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17   \begin{LWR@BlockClassWP}{\LWR@print@mbx{text-align:right}}{(note){epigraph}}%
18   \qitem{#1}{#2}%
19   \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
```

```

22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24   {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{ }(note){epigraph}}%
25   {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}

```

---

File 135 **lwarp-epsf.sty**

§ 244 Package **epsf**

*(Emulates or patches code by TOM ROKICKI.)*

Pkg epsf

epsf is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epsf}% not date given

2 \xpretocmd{\epsfsetgraph}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}

```

---

File 136 **lwarp-epsfig.sty**

§ 245 Package **epsfig**

Pkg epsfig

epsfig is emulated for use by lwarp.



Only the L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε syntax is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

```

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5   \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9   \xdef\LWR@epsfig@filename{#1}%
10 }
11

```

```

12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}

```

---

File 137 **lwarp-epstopdf.sty**

§ 246 Package **epstopdf**

Pkg epstopdf

Previous versions of `lwarp` had a nullified version, but now `epstopdf-base` is supported. `lwarp-epstopdf` becomes a placeholder to overwrite previous versions.

See package `epstopdf-base` for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

File 138 **lwarp-epstopdf-base.sty**

§ 247 Package **epstopdf-base**

Pkg epstopdf-base



**convert to .svg**

Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

```
Enter => lwarpmk pdftosvg <listofPDFfiles>
```

to generate `.svg` versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing `.pdf` with `.svg`. Use the `epstopdf print` version inside a `lateximage`.

```

2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3   \edef\LWR@tempone{#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}

```

`\includegraphics` in HTML mode redefines `\Gin@setfile` to be `\LWR@HTML@Gin@setfile`, which is now redirected to `epstopdf`'s version:

```

10 \renewcommand*\LWR@HTML@Gin@setfile}[3]{%
11   \ETE@Gin@setfile{#1}{#2}{#3}%
12 }

```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15   .eps, .EPS, .svg, .SVG, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }

```

Likewise when inside a lateximage:

```

20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22   .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }

```

---

File 139 **lwarp-eqlist.sty**

§ 248 Package **eqlist**

Pkg eqlist

eqlist is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{Eqlist}[2][\description]{\enddescription}
5 \newenvironment{Eqlist*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 140 **lwarp-eqparbox.sty**

§ 249 Package **eqparbox**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg eqparbox

eqparbox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{ } O{t} m +m}{%

```



```

3   {%
4       \minipagefullwidth%
5       \parbox[#1][#2][#3]{\linewidth}{#5}%
6   }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11     \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16     \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22     \begingroup%
23     \minipagefullwidth%
24     \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27     \endminipage%
28     \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto[2]{}

```

---

File 141 **lwarp-errata.sty**

§ 250 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata

errata is patched for use by lwarp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the lwarp version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4   {$_a^{\arabic{erratum}}$}
5%   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7   {}
8   {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11  {$_d^{\arabic{erratum}}$}
12%  {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13  {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14  {}
15  {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18  {$_r^{\arabic{erratum}}$}
19%  {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20  {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21  {}
22  {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25  {$_a$}
26%  {\inlinemathother$_a$\inlinemathnormal}
27  {\textsubscript{a}}
28  {}
29  {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32  {$_d^{\@thefnmark}$}
33%  {\inlinemathother$_d^{\@thefnmark}}$\inlinemathnormal}
34  {\textsubscript{d}\textsuperscript{\@thefnmark}}
35  {}
36  {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39  {$_r^{\@thefnmark}}$}
40%  {\inlinemathother$_r^{\@thefnmark}}$\inlinemathnormal}
41  {\textsubscript{r}\textsuperscript{\@thefnmark}}
42  {}
43  {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

---

File 142 **lwarp-eso-pic.sty**

§ 251 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg eso-pic

eso-pic is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand\AddToShipoutPictureBG{s +m}{}

13 \newcommand\AddToShipoutPicture{\AddToShipoutPictureBG}
14 \NewDocumentCommand\AddToShipoutPictureFG{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand\gridSetup[6][1]{}

```

File 143 **lwarp-esvect.sty**§ 252 Package **esvect***(Emulates or patches code by EDDIE SAUDRAIS.)*

Pkg esvect

esvect is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand\LWRResvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand\LWRResvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand\vstar\LWRResvectvstar\LWRResvectv}
6 \end{warpMathJax}

```

File 144 **lwarp-etoc.sty**§ 253 Package **etoc**

Pkg etoc

etoc is ignored. All commands are nullified.

**\tableofcontents with \ref**


The etoc package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

```

\warpprintonly{\tableofcontents           \ref{toc:abc}
\label{toc:def}}

```

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

 **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warpHTMLonly` macro or `warpHTML` environment.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \empty
5 \let\etocthenumber \empty
6 \let\etocthepage \empty
7 \let\etocthelinkedname \empty
8 \let\etocthelinkednumber \empty
9 \let\etocthelinkedpage \empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber{}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {} \@firstofone
15 \DeclareRobustCommand*\etocifnumbered{\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst{\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
18 \let\etocaftertitlehook \empty
19 \let\etocaftercontentshook \empty
20 \def\etoc\tableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocseppone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocseptthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etoc\oclineleaders
48 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}

```

```

54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocstofmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etocstocstyle[3][section]{}
98 \newcommand\etocstocstylewithmarks[4][section]{}
99 \newcommand\etocstocstylewithmarksnouc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}

```

---

```

114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

File 145 **lwarp-eurosym.sty**

§ 254 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

Pkg eurosym eurosym is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

2 \renewrobustcmd\officialeuro{\HTMLentity{euro}}
3 \let\geneuro\officialeuro
4 \let\geneuronarrow\officialeuro
5 \let\geneurowide\officialeuro
6 \let\euro\officialeuro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}
```

---

File 146 **lwarp-everypage.sty**

§ 255 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg everypage everypage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}
```

---

File 147 **lwarp-everyshi.sty**

§ 256 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg everyshi ignored.

**for HTML output:** Discard all options for lwarp-everyshi:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout[1]{}

```

---

File 148 **lwarp-extarrows.sty**

§ 257 Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

Pkg extarrows

extarrows is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

---

File 149 **lwarp-extramarks.sty**

§ 258 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg extramarks

extramarks is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```

1 \LWR@ProvidesPackageDrop{extramarks}[2019/01/31]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand*{\firstleftxmark}{}
4 \newcommand*{\lastleftxmark}{}
5 \newcommand*{\firstrightxmark}{}
6 \newcommand*{\lastrightxmark}{}
7 \newcommand*{\firstxmark}{}
8 \newcommand*{\lastxmark}{}
9 \newcommand*{\topxmark}{}
10 \newcommand*{\topleftxmark}{}
11 \newcommand*{\toprightxmark}{}
12 \newcommand*{\firstleftmark}{}
13 \newcommand*{\lastrightmark}{}
14 \newcommand*{\firstrightmark}{}
15 \newcommand*{\lastleftmark}{}

```

File 150 **lwarp-fancybox.sty**

§ 259 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancybox

fancybox is supported with some patches.


[framed equation example](#) fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
[\fbox{\TheSbox}\]
\endlateximage% NEW
}
```

[framing alternatives](#) \fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

[framed table example](#) The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

 [framed verbatim](#) lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```



|                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| framed <code>\VerbBox</code>                                                                                                                                                               | <code>fancybox</code> 's <code>\VerbBox</code> may be used inside <code>\fbox</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| indented alignment                                                                                                                                                                         | <code>LVerbatim</code> , <code>\LVerbatimInput</code> , and <code>\LUseVerbatim</code> indent with horizontal space which may not line up exactly with what <i>pdftotext</i> detects. Some lines may be off slightly in their left edge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <span style="color: blue;">fancybox, fancyvrb</span><br><span style="color: red;">⚠ <code>\VerbatimFootnotes</code></span><br><span style="color: red;">⚠ sectioning or displaymath</span> | <p>If using <code>fancybox</code> or <code>fancyvrb</code> with <code>\VerbatimFootnotes</code>, and using footnotes in a sectioning command or display math, use <code>\footnotemark</code> and <code>\footnotetext</code>:</p> <pre style="margin-left: 2em;">\subsection[Subsection Name]   {Subsection Name\protect\footnotemark} \footnotetext{A footnote with \verb+verbtim+.}</pre> <p>and likewise for equations or display math.</p> <p>At present there is a bug such that paragraph closing tags are not present in footnotes when <code>\VerbatimFootnotes</code> are selected. The browser usually compensates.</p> <pre style="margin-left: 2em;">1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]</pre> <p>After the preamble is loaded, after any patches to <code>Verbatim</code>:</p> <pre style="margin-left: 2em;">2 \AfterEndPreamble{ 3 \LWR@traceinfo{Patching fancybox.}</pre> <p><code>\VerbatimFootnotes</code> Patched to use the new version.</p> <pre style="margin-left: 2em;">4 \def\VerbatimFootnotes{% 5 \let\@footnotetext\@footnotetext% 6 \let\LWR@footnotetext\@footnotetext% lwarp 7 }</pre> <p><code>\V@footnotetext</code> Patches in a subset of <code>lwarp</code>'s <code>\LWR@footnotetext</code> to the <code>fancyvrb</code> version of <code>\V@footnotetext</code>.</p> <pre style="margin-left: 2em;">8 \def\V@footnotetext{% 9 \LWR@traceinfo{V@footnotetext}%</pre> <p>Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.</p> <pre style="margin-left: 2em;">10 \LWR@newautopagelabel{page}%</pre> <p>Take the current footnote box, then append:</p> <pre style="margin-left: 2em;">11 \global\setbox\LWR@footnotebox=\vbox\bgroup%</pre> <p>Add to any current footnotes:</p> <pre style="margin-left: 2em;">12   \unvbox\LWR@footnotebox%</pre> <p>Remember the footnote number for <code>\ref</code>:</p> <pre style="margin-left: 2em;">13   \protected@edef\@currentlabel{% 14     \csname p@footnote\endcsname\@thefnmark% 15   }% @currentlabel</pre> <p>Use HTML superscripts in the footnote even inside a <code>lateximage</code>:</p> <pre style="margin-left: 2em;">16   \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%</pre> <p>Use paragraph tags if in a tabular data cell or a <code>lateximage</code>:</p> <pre style="margin-left: 2em;">17   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%</pre> |

Append the footnote to the list:

```
18 \makefnctext{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
19 \bgroup%
20 \aftergroup\V@@@footnotetext%
```

Do not generate autpages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
21 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
22 \ignorespaces%
23 }%
```

\V@@@footnotetext

```
24 \def\V@@@footnotetext{%
25   \LWR@origtilde\LWR@orignewline%
26   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
27   \strut\egroup%
28 }
```

```
29 }% AfterEndPreamble
```

```
30 \renewcommand*\@shadowbox}[1]{%
31 \ifbool{FormatWP}%
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
33 {\InlineClass{shadowbox}{#1}}%
34 }
35
36 \renewcommand*\@doublebox}[1]{%
37 \ifbool{FormatWP}%
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
39 {\InlineClass{doublebox}{#1}}%
40 }
41
42 \renewcommand*\@ovalbox}[2]{%
43 \ifbool{FormatWP}%
44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
45 {%
46   \ifthenelse{\isequivalentto{#1}{\thinlines}}%
47     {\InlineClass{ovalbox}{#2}}%
48     {\InlineClass{Ovalbox}{#2}}%
49 }%
50 }
```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```
51 \let\LWR@origSbox\Sbox
52
53 \def\Sbox{\LWR@origSbox\LWR@nestspan}
54
55
56 \let\LWR@origendSbox\endSbox
57
58 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}
```

Beqnarray is adapted for MATHJAX or enclosed inside a lateximage:

```
59 \RenewEnviron{Beqnarray}
60 {\LWR@eqnarrayfactor}
61
62 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}
```

\GenericCaption is enclosed in an HTML block:

```
63 \renewcommand{\GenericCaption}[1]{%
64   \LWR@figcaption%
65   \LWR@isolate{#1}%
66   \endLWR@figcaption%
67 }
```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

\trivlist

```
{\l/c/r} [\t/c/b]
68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70   \LWR@stoppars%
71   \begin{BlockClass}{Btrivlist}%
72   \tabular{#1}%
73 }
74 {%
75   \endtabular%
76   \end{BlockClass}%
77   \LWR@startpars%
78 }
```

Btrivlist is also neutralized when used inside a span:

```
79 \AtBeginEnvironment{LWR@nestspan}{%
80   \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
81 }
```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```
82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
86   \IfValueTF{#2}{%
87     \LWRFB@origitemizeitem[#2]%
88   }{%
89     \LWRFB@origitemizeitem%
90   }%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
94   \IfValueTF{#2}{%
95     \LWRFB@origdescitem[#2]~%
96   }{%
97     \LWRFB@origdescitem%
98   }%
99 }
```

```

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101   \if@newlist\else{
102     \LWR@htmltagc{br /}%
103     \LWR@orignewline%
104   }\fi%
105   \LWR@origitem%
106 }

```

The various boxed lists become regular lists:

```

107 \renewenvironment{Bitemize}[1]{}
108   {%
109     \LWR@spanwarnformat{Bitemize}%
110     \booltrue{LWR@starting@fancybox}%
111     \begin{itemize}%
112     \boolfalse{LWR@starting@fancybox}%
113   }
114   {\end{itemize}}
115
116 \renewenvironment{Benumerate}[1]{}
117   {%
118     \LWR@spanwarnformat{Benumerate}%
119     \booltrue{LWR@starting@fancybox}%
120     \begin{enumerate}%
121     \boolfalse{LWR@starting@fancybox}%
122   }
123   {\end{enumerate}}
124
125 \renewenvironment{Bdescription}[1]{}
126   {%
127     \LWR@spanwarnformat{Bdescription}%
128     \booltrue{LWR@starting@fancybox}%
129     \begin{description}%
130     \boolfalse{LWR@starting@fancybox}%
131   }
132   {\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

133 \RenewDocumentCommand{\boxput}{s d() m m}{%
134   \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
135 }

```

Neutralized commands:

```

136 \RenewDocumentCommand{\fancyput}{s d() m}{%
137 \RenewDocumentCommand{\thisfancyput}{s d() m}{%
138
139 \RenewDocumentCommand{\fancypage}{m m}{%
140 \RenewDocumentCommand{\thisfancypage}{m m}{%
141
142 \def\LandScape#1{}
143 \def\endLandScape{}
144 \def\@Landscape#1#2#3{}
145 \def\endLandscape{}

```

Low-level patches for UseVerbatim and friends:

```

146 \let\LWRFB@UseVerbatim\UseVerbatim
147 \renewcommand*\UseVerbatim}[1]{%
148   \LWR@atbeginverbatim{Verbatim}%
149   \LWRFB@UseVerbatim{#1}%
150   \LWR@afterendverbatim%
151 }
152
153 \let\LWRFB@LUseVerbatim\LUseVerbatim
154
155 \renewcommand*\LUseVerbatim}[1]{%
156   \LWR@atbeginverbatim{LVerbatim}%
157   \noindent%
158   \LWRFB@LUseVerbatim{#1}%
159   \LWR@afterendverbatim%
160 }
161
162 \def\@BUseVerbatim[#1]#2{%
163   \LWR@atbeginverbatim{BVerbatim}%
164   \LWRFB@UseVerbatim{#2}%
165   \LWR@afterendverbatim%
166 }

```

---

File 151 **lwarp-fancyhdr.sty**

§ 260 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg fancyhdr

fancyhdr is ignored.

**for HTML output:** Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

2 \newcommand*\fancyhead}[2][{}
3 \newcommand*\fancyfoot}[2][{}
4 \newcommand*\fancyhf}[2][{}
5
6 \newcommand*\lhead}[2][{}
7 \newcommand*\chead}[2][{}
8 \newcommand*\rhead}[2][{}
9 \newcommand*\lfoot}[2][{}
10 \newcommand*\cfoot}[2][{}
11 \newcommand*\rfoot}[2][{}
12 \newcommand*\headrulewidth{}
13 \newcommand*\footrulewidth{}
14 \providecommand*\headruleskip{0pt}
15 \providecommand*\footruleskip{0pt}
16 \newcommand*\plainheadrulewidth{0pt}
17 \newcommand*\plainfootrulewidth{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule{}
20 \newcommand*\footrule{}
21 \newlength\headwidth
22 \newcommand*\fancycenter}[1][1em]{}

```

```

23 \newcommand*\fancyheadoffset}[2][{}
24 \newcommand*\fancyfootoffset}[2][{}
25 \newcommand*\fancyhfoffset}[2][{}
26 \newcommand*\fancyheadinit}[1]{}
27 \newcommand*\fancyfootinit}[1]{}
28 \newcommand*\fancyhfinit}[1]{}
29 \newcommand*\iffloatpage}[2]{#2}
30 \newcommand*\ifftopfloat}[2]{#2}
31 \newcommand*\iffbotfloat}[2]{#2}
32 \newcommand*\iffootnote}[2]{#2}
33
34 \newcommand*\fancypagestyle}[1]{%
35   \@ifnextchar[{\f@nch@pagestyle{#1}}{\f@nch@pagestyle{#1}}{}%
36 }
37 \long\def\f@nch@pagestyle#1[#2]#3{

```

---


File 152 **lwarp-fancypar.sty**


§ 261 Package **fancypar**

*(Emulates or patches code by GONZALO MEDINA.)*

Pkg fancypar

fancypar is used as-is for print output, and emulated for HTML.

 **css classes** \NotebookPar and related are used as-is inside a lateximage, but for HTML these are emulated as a <div> of class NotebookPar, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom css for each if visual effects are required. See section 7.7.

 **custom styles** If using a custom paragraph style, such as \MyStylePar from the documentation, use the following to generate an HTML <div> of class MyStylePar:

```

... (existing definiton of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

\MyStylePar is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand*\LWR@fancypar}[2]{%
6   \begin{BlockClass}{#1Par}
7     #2
8   \end{BlockClass}
9 }
10
11 \newcommand*\LWR@HTML@NotebookPar}[2][\LWR@fancypar{Notebook}{#2}]
12 \LWR@formatted{NotebookPar}
13
14 \newcommand*\LWR@HTML@ZebraPar}[2][\LWR@fancypar{Zebra}{#2}]
15 \LWR@formatted{ZebraPar}

```

```

16
17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancy@par{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancy@par{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancy@par{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancy@parClass}[1]{%
32   \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancy@par{#1}{#2}]%
33   \LWR@formatted{#1Par}
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

---

File 153 **lwarp-fancyref.sty**

§ 262 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

Pkg fancyref fancyref is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

Hook [fancyref] \fancyrefhook To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWR@fref@parenfancyrefhook[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWR@fref@parenfancyrefhook}
5 {}{
6   \renewcommand*\fancyrefhook[1]{#1}%
7 }

```

---

File 154 **lwarp-fancytabs.sty**

§ 263 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{

```

---

File 155 **lwarp-fancyvrb.sty**

§ 264 Package **fancyvrb**



*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancyvrb

fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a `<div>` of class fancyvrb. The label is placed inside a `<div>` of class fancyvrblabel. The verbatim text itself is placed inside a `<div>` of class verbatim.

**fancybox, fancyvrb**

 **\VerbatimFootnotes**  
 **sectioning or displaymath**

If using fancybox or fancyvrb with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```

\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]

```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to `Verbatim`:

```

5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}

```

`\VerbatimFootnotes`

Patched to use the new version.

```

7 \def\VerbatimFootnotes{%
8   \let\@footnotetext\@footnotetext%

```



```

9   \let\footnote\V@footnote%
10  \let\LWR@footnotetext\V@footnotetext% lwarp
11 }

```

\V@@footnotetext

Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@@footnotetext.

```

12 \def\V@@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```

14 \LWR@newautopagelabel{page}%

```

Take the current footnote box, then append:

```

15 \global\setbox\LWR@footnotebox=\vbox\bgroup%

```

Add to any current footnotes:

```

16 \unvbox\LWR@footnotebox%

```

Remember the footnote number for \ref:

```

17 \protected@edef\@currentlabel{%
18   \csname p@footnote\endcsname\@thefnmark%
19 }% @currentlabel

```

Use HTML superscripts in the footnote even inside a lateximage:

```

20 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```

21 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

```

Append the footnote mark to the list:

```

22 \@makefnlist{}%

```

The footnote text will follow after \V@@@footnotetext has completed.

```

23 \bgroup%
24 \aftergroup\V@@@footnotetext%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

25 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%

```

```

26 \ignorespaces%
27 }%

```

\V@@@footnotetext

```

28 \def\V@@@footnotetext{%
29   \LWR@origtilde\LWR@orignewline%
30   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
31   \strut\bgroup%
32 }

```

```

33 \preto\FVB@Verbatim{\LWR@forcenewpage}
34 \preto\FVB@LVerbatim{\LWR@forcenewpage}
35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

36 \def\FV@BeginListFrame@Single{%
37   \FV@SingleFrameLine{\z}%
38 }
39
40 \def\FV@endListFrame@Single{%
41   \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45   \FV@SingleFrameLine{\z}%
46 }
47
48 \def\FV@endListFrame@Lines{%
49   \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*\FV@SingleFrameSep{}
```

Adds HTML formatting:

```

53 \def\FV@BUseVerbatim#1{%
54   \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }
```

`\LWR@FVstyle` Holds the style of the verbatim.

```

56 \newcommand*\LWR@FVstyle{}
```

The following patches to `Verbatim` are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```

57 \newcommand*\LWR@fvstartnone{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{
60 \BlockClass[\LWR@FVstyle]{fancyvrb}
61 \LWR@stoppars
62 \ifx\FV@LabelPositionTopLine\relax\else
63   \ifx\FV@LabelBegin\relax\else
64     \FancyVerbRuleColor{\LWR@FVfindbordercolor}
65     \LWR@htmltagc{%
66       div class=\textquoteddbl{}fancyvrblabel\textquoteddbl % space
67       style=\textquoteddbl{}color: \LWR@origpound\LWR@tempcolor\textquoteddbl%
68     }
69     \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
70     \LWR@htmltagc{/div}\LWR@orignewline%
71   \fi
72 \fi
73 \LWR@atbeginverbatim{verbatim}%
74 % }%
75 }
76
77 \newcommand*\LWR@fvendnone{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{
80 \LWR@afterendverbatim%
```

```

81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else
83   \ifx\FV@LabelEnd\relax\else
84     \FancyVerbRuleColor{\LWR@FVfindbordercolor}
85     \LWR@htmltagc{%
86       div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
87       style=\textquotedbl{}color:\LWR@origpound\LWR@tempcolor\textquotedbl%
88     }
89     \LWR@print@textrm{\FV@LabelEnd}
90     \LWR@htmltagc{/div}\LWR@orignewline%
91   \fi
92 \fi
93 \endBlockClass
94 }
95
96 \newcommand*\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107
108 \newcommand*\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the fancyvrb package.

```

122 \newcommand*\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%

```

```

137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%
146 \renewcommand*{\LWR@FVstyle}{%
147   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148   \LWR@FVborderstyle{}}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingle%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158   \LWR@FVborderstyle{-top}%
159   \LWR@indentHTMLtwo%
160   \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170   \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180   \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

186 \def\FV@FrameFillLine{}%

187 \def\FV@Frame@leftline{%
188 \renewcommand*{\LWR@FVstyle}{%
189   \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190   \LWR@FVborderstyle{-left}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)

```

```

193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 \@tempdima\FV@FrameRule\relax%
197 \multiply\@tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}}%
200 \kern-\number\@tempdima sp}}%
201 \fi%
202 \let\FV@BeginListFrame\LWR@fvstartnone%
203 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
204 \let\FV@RightListFrame\relax%
205 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the fancyvrb package.

```

206 \def\FV@SingleFrameLine#1{%
207 % \hbox to\z@{%
208 % \kern\leftmargin
209 % \ifnum#1=\z@\relax
210 % \let\FV@Label\FV@LabelBegin
211 % \else
212 % \let\FV@Label\FV@LabelEnd
213 % \fi
214 % \ifx\FV@Label\relax
215 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
216 % \else
217 % \ifnum#1=\z@
218 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
219 % \ifx\FV@LabelPositionTopLine\relax
220 % \else
221 % \fi
222 % \else
223 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
224 % \ifx\FV@LabelPositionBottomLine\relax
225 % \else
226 % \fi
227 % \fi
228 % \fi
229 % \hss
230 % }
231 }

```

Processes each line, adding optional line numbers. Original code is from the fancyvrb package.

```

232 \def\FV@ListProcessLine#1{%
233 \hbox to \hsize{%
234 % \kern\leftmargin
235 % \hbox to \VerbatimHTMLWidth {%
236 % \ifcvoid{FV@LeftListNumber}{\kern 2.5em}%
237 % FV@LeftListNumber%
238 % FV@LeftListFrame
239 % \FancyVerbFormatLine{#1}%
240 % \hss%
241 % FV@RightListFrame
242 % FV@RightListNumber%
243 % }%

```

```

244     \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 %   \hbox{%
249     \ifvoid\@labels\else
250       \hbox to \z@\kern\@totalleftmargin\box\@labels\hss}%
251     \fi
252     \FV@ListProcessLine{#1}%
253 %   }%
254 %   \let\FV@ProcessLine\FV@ListProcessLine@ii%
255 }

256 \def\FV@ListProcessLastLine{}

```

Env BVerbatim

```

257
258 \xpretocmd{\FV@BeginVBox}
259   {%
260     \LWR@forcenewpage% instead of \preto
261     \LWR@atbeginverbatim{bverbatim}%
262   }
263 {}
264 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
265
266 \xapptocmd{\FV@EndVBox}
267   {%
268     \LWR@afterendverbatim%
269   }
270 {}
271 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

---

File 156 **lwarp-fbox.sty**

§ 265 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

**fbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2022/02/20]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*\orig@fbox{\FBox@i[tblr]}
```

\WR@fboxpkg@border

{\langle 1: top/bottom/left/right \rangle}{\langle 2: t/b/l/r \rangle}{\langle 3: padding, or empty \rangle}

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*\LWR@fboxpkg@border}[3]{%
5   \colorlet{\LWR@border@color}{\csuse{fbox@#2color}}%
6   \protect\convertcolorspec{named}{\LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7   \appto\LWR@tempone{%
8     border-#1: % space
9     \LWR@printlength{\LWR@atleastonept} % space
10    solid \LWR@origpound%
11  }%
12  \expandafter\appto\expandafter\LWR@tempone\expandafter\LWR@tempbordercolor}%
13  \appto\LWR@tempone[ ;\LWR@indentHTML]%
14  \ifblank{#3}{%
15    \appto\LWR@tempone{%
16      padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17    }%
18  }%
19 }
```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{\LWR@fboxpkg@ispar}
21 \boolfalse{\LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```

22 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
23   \csuse{if@fbox@space@#1}%
24   \appto\LWR@tempone{%
25     padding-#1: \LWR@printlength{\fbox@@sep};\LWR@indentHTML
26   }
27   \else%
28     \appto\LWR@tempone{%
29       padding-#1: 0pt;\LWR@indentHTML
30     }
31   \fi%
32 }
```

The HTML version, modified to use HTML styles and either an \InlineClass or BlockClass:

```

33 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```

34   \LWR@forceminwidth{\fbox@@rule}%
35   \LWR@findcurrenttextcolor%
36   \def\LWR@tempone{%
37     color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38     margin: 1ex ; \LWR@indentHTML
39   }%
```

Add left/right padding:

```

40   \LWR@fboxpkg@lrpadding{left}%
41   \LWR@fboxpkg@lrpadding{right}%
```

Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43   \advance\@tempcntb by -8\relax
44   \LWR@fboxpkg@border{top}{t}{\fbox@sep}%
45 \fi
46 \ifnum\@tempcntb>3
47   \advance\@tempcntb by -4\relax
48   \LWR@fboxpkg@border{left}{l}{}%
49 \fi
50 \ifnum\@tempcntb>1\relax
51   \LWR@fboxpkg@border{right}{r}{}%
52 \fi
53 \ifodd\@tempcntb
54   \LWR@fboxpkg@border{bottom}{b}{\fbox@sep}%
55 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

56 \color@begingroup
57 \ifbool{LWR@fboxpkg@ispar}%
58   {%
59     \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
60     #1%
61     \end{BlockClass}%
62   }%
63   {%
64     \InlineClass[\LWR@tempone]{fboxpkg}{%
65     #1%
66     }%
67   }%
68 \color@endgroup
69 \boolfalse{LWR@fboxpkg@ispar}% globally
70 }
71 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73   \booltrue{LWR@fboxpkg@ispar}%
74   \FBox@i[#1]{#2}
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79   \booltrue{LWR@fboxpkg@ispar}%
80   \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}]}
85 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```



---

File 157 **lwarp-fewerfloatpages.sty**

§ 266 Package **fewerfloatpages**

Pkg fewerfloatpages fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

---

File 158 **lwarp-figcaps.sty**

§ 267 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg figcaps figcaps is ignored.

**for HTML output:** Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

---

File 159 **lwarp-figsize.sty**

§ 268 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg figsize figsize is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
```

---

```

6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 160 **lwarp-fitbox.sty**

§ 269 Package **fitbox**

Pkg fitbox

fitbox is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3   \begin{BlockClass}{fitbox}
4     #3
5   \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][{}]{

```

---

File 161 **lwarp-fix2col.sty**

§ 270 Package **fix2col**

Pkg fix2col

fix2col is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---


File 162 **lwarp-fixmath.sty**

§ 271 Package **fixmath**

Pkg fixmath

*(Emulates or patches code by WALTER SCHMIDT.)*

fixmath is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

```

5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```

---


File 163 **lwarp-fixme.sty**

§ 272 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

Pkg fixme

fixme is patched for use by lwarp.

 **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by lwarp’s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see lwarp’s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]

Restore lwarp’s version of `\@wrindex`, ignoring the `fixme` package’s target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by lwarp:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6   \hypertocfloat{1}{fixme}{lox}%
7   {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8   {#2}
9 }

```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15   \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16   {\@fxttextstd{#1}{#2}{#3}}%
17 }
18

```

```

19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23   \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30   \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsignature[1]{%
38   \ifthenelse{\equal{#1}{}}%
39     {}%
40     { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47   \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50 }% \AtBeginDocument

```

---

File 164 **lwarp-fixmetodonotes.sty**

§ 273 Package **fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes

fixmetodonotes is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]
2 \renewcommand{\NOTES@addtolist}[2]{%
3   \refstepcounter{NOTES@note}%
4 % \phantomsection REMOVED
5   \addcontentsline{notes}{NOTES@note}{%
6     \protect\numberline{\theNOTES@note}{#1}: {#2}}%
7   }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11   \textcolor{#2}{% WAS \color
12     \textbf{#1}}}%
13   }}
14
15 \renewcommand{\NOTES@colorline}[2]{%

```

---

```

16 \bgroup%
17 \ULon{\LWR@backgroundcolor{#1}{#2}}%
18 }

```

---

File 165 **lwarp-flafter.sty**

§ 274 Package **flafter**

Pkg flafter

flafter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

```

---

File 166 **lwarp-flippdf.sty**

§ 275 Package **flippdf**

Pkg flippdf

flippdf is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

```

---

File 167 **lwarp-float.sty**

§ 276 Package **float**


Pkg float

*(Emulates or patches code by ANSELM LINGNAU.)*

float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

 **not seem to be a floating environment** Always declare a `\newfloat` before modifying it with `\floatname`, etc.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

```

`\LWR@floatstyle` The default float style.

```

2 \newcommand*{\LWR@floatstyle}{plain}

```

`\newfloat``{<1: type>} {<2: placement>} {<3: ext>} [ <4: within >]`

Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4   \IfValueTF{#4}%
5     {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6     {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7   \csdef{LWR@floatstyle@#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
8   \cslet{listof#1s}\relax%
9   \cslet{listof#1es}\relax%
```

Like `size`, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```
10  \cslet{l@#1}\relax%
11 }
```

`\floatname``{<type>} {<name>}`

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13   \def\LWR@tempone{#2}%
14   \def\LWR@temptwo{\@nameuse{#1name}}%
15   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%}{%
16     \SetupFloatingEnvironment{#1}{name=#2}%
17   }%
18 }
```

`\floatplacement``{<type>} {<placement>}`

Float placement is ignored.

```
19 \newcommand*{\floatplacement}[2]{%
20   \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

`\floatstyle``{<style>}`

Remember the style for future floats:

```
22 \newcommand{\floatstyle}[1]{%
23   \def\LWR@floatstyle{#1}%
24 }
```

`\restylefloat``* {<type>}`

Remember the style for this float:

```
25 \NewDocumentCommand{\restylefloat}{s m}{%
26   \csdef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }
```

`\listof` See section 78.2 for the `\LWR@listof` command in the `lwarp` core.

```
28 \newcommand{\listof}{\LWR@listof}
```

File 168 **lwarp-floatflt.sty**

§ 277 Package **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

Pkg floatflt **floatflt** is emulated.

**for HTML output:** Discard all options for `lwarp-floatflt`:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env [`<>`] **offset** [`<type>`] [`<width>`] Borrowed from the `lwarp` version of `keyfloat`:

```
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4   \begin{LWR@setvirtualpage}*%
5   \ifblank{#3}{%
6     \LWR@BlockClassWP{%
7       float:right; %
8       width: 1.5in; % reasonable dummy width for word processor
9       margin:10pt%
10    }{%
11    (note)%
12    {marginblock}%
13   }{%
14     \setlength{\LWR@templengthone}{#3}%
15     \LWR@BlockClassWP{%
16       float:right; %
17       width:\LWR@printlength{\LWR@templengthone}; % extra space
18       margin:10pt%
19     }{%
20       width:\LWR@printlength{\LWR@templengthone}%
21     }%
22     (note)%
23     {marginblock}%
24   }%
25   \renewcommand*\@capttype{#2}%
26 }
27 {%
28   \endLWR@BlockClassWP%
29   \end{LWR@setvirtualpage}%
30 }
```

Env floatingfigure [`<placement>`] [`<width>`]

```
31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}
```

Env floatingtable [`<placement>`]

```
34 \DeclareDocumentEnvironment{floatingtable}{o}
```

```

35 {\begin{KFLTfloatflt@marginfloat}{table}{}
36 {\end{KFLTfloatflt@marginfloat}}

```

File 169 **lwarp-floatpag.sty**

§ 278 Package **floatpag**

*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag

floatpag is ignored.

**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\floatpagestyle[1]{}
3 \newcommand*\rotfloatpagestyle[1]{}
4 \newcommand*\thisfloatpagestyle[1]{}

```

File 170 **lwarp-floatrow.sty**

§ 279 Package **floatrow**

*(Emulates or patches code by OLGA LAPKO.)*

Pkg floatrow

floatrow is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section [8.10.1](#).

⚠ **subfig package** When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether `subcaption` was loaded. If not, it is assumed that `subfig` is used instead:



```

2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \IfPackageLoadedTF{subcaption}
6   {\booltrue{LWR@subcaptionloaded}}
7   {\boolfalse{LWR@subcaptionloaded}}
8 }

```

\floatbox

`[{<1 preamble>}]{<2 captype>}[<3 width>][<4 height>][<5 vert pos>]{<6 caption>}{<7 object>}`

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```

9 \NewDocumentCommand{\floatbox}{o m o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption

```

For subcaption:

```

12   \ifbool{LWR@insubfloatrow}%
13   {% subcaption in a subfloatrow

```

subfigure and subtable environments take width as an argument.

```

14       \IfValueTF{#3}%
15       {\@nameuse{sub#2}{#3}}%
16       {\@nameuse{sub#2}{\linewidth}}%
17   }% subcaption in a subfloatrow
18   {% subcaption not in subfloatrow

```

figure and table environments do not take a width argument.

```

19       \@nameuse{#2}%
20   }% subcaption not in subfloatrow
21   #6
22
23   #7

```

End the environments:

```

24   \ifbool{LWR@insubfloatrow}%
25   {\@nameuse{endsub#2}}%
26   {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31   \begingroup
32   \let\caption\@firstofone
33   \subfloat[#6]{#7}
34   \endgroup
35 }% subfig in a subfloatrow

```

36 {% subfig package, but not a subfig

figure and table are environments:

```
37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }
```

Not used:

```
45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand{\floatsetup}[2][{}]{
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*\killfloatstyle{}
```

`\newfloatcommand`      [*1 command*] [*2 captype*] [*3 preamble*] [*4 default width*]

Preamble and default width are ignored.

```
57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }
```

`\renewfloatcommand`      [*1 command*] [*2 captype*] [*3 preamble*] [*4 default width*]

Preamble and default width are ignored.

```
62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }
```

`\ffigbox`      [*width*] [*height*] [*vposn*] [*caption commands*] [*contents*]

```
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][
```

`\ttabbox`      [*width*] [*height*] [*vposn*] [*caption commands*] [*contents*]

```
68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]
```

`\fcapside`      [*width*] [*height*] [*vposn*] [*caption commands*] [*contents*]

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][
```

Env floatrow

[*<numfloats>*]

The row of floats is placed into a <div> of class floatrow.

```

70 \newenvironment*{floatrow}[1][2]
71 {%
72   \begin{LWR@setvirtualpage}*%
73   \BlockClass{floatrow}%
74 }
75 {
76   \endBlockClass%
77   \end{LWR@setvirtualpage}%
78 }

```

Keys for \DeclareNewFloatType:

```

79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

\DeclareNewFloatType

{*<type>*} {*<options>*}

Use \listof{type}{Title} to print a list of the floats.

```

90 \newcommand*{\DeclareNewFloatType}[2]{%

```

Reset key values:

```

91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }%
100 {%
101   \DeclareFloatingEnvironment[
102     placement=\LWR@frowkeyplacement,
103     fileext=\LWR@frowkeyfileext
104   ]{#1}%
105 }%
106 {%
107   \DeclareFloatingEnvironment[
108     placement=\LWR@frowkeyplacement,
109     fileext=\LWR@frowkeyfileext,
110     within=\LWR@frowkeywithin
111   ]{#1}%
112 %   \LWR@traceinfo{finished newfloat #1}%

```

113 }%

Rename the float if a name was given:

```
114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115   {}%
116   {%
117     \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118   }%
119 }
```

Not used:

```
120 \newcommand{\buildFBBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption

{*text*}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot

{*text*}

Places additional text inside a float, inside a css <div> of class floatfoot.

```
130 \NewDocumentCommand{\floatfoot}{s +m}{%
131   \begin{BlockClass}{floatfoot}
132   #2
133   \end{BlockClass}
134 }
```

Used to compute \linewidth.

```
135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}
```

Env subfloatrow

[*num\_floats*]

```
137 \newenvironment*{subfloatrow}[1][2]
138 {
```

The row of floats is placed into a <div> of class floatrow:

```
139   \LWR@forcenewpage
140   \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```
141   \begingroup%
142   \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145   \endgroup%
```

---

```

146   \endBlockClass%
147   \boolfalse{LWR@insubfloatrow}%
148 }

```

---

File 171 **lwarp-fltrace.sty**

§ 280 Package **fltrace**

Pkg fltrace

fltrace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

File 172 **lwarp-flushend.sty**

§ 281 Package **flushend**

Pkg flushend

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

flushend is ignored.

**for HTML output:** Discard all options for lwarp-flushend:

```

1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newtoks\atColsBreak \atColsBreak={}
7 \newtoks\atColsEnd \atColsEnd={}
8 \newcommand*\showcolsendrule{}

```

---

File 173 **lwarp-fnbreak.sty**

§ 282 Package **fnbreak**

Pkg fnbreak

fnbreak is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknoLabel{}

```

---

File 174 **lwarp-fncychap.sty**

§ 283 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

Pkg fncychap

fncychap is ignored.

**for HTML output:** Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 175 **lwarp-fnlineno.sty**

§ 284 Package **fnlineno**

Pkg fnlineno

fnlineno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 176 **lwarp-fnpara.sty**

§ 285 Package **fnpara**

Pkg fnpara

fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 177 **lwarp-fnpos.sty**

§ 286 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos **fnpos** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}
```

---


File 178 **lwarp-fontawesome.sty**

§ 287 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome **fontawesome** is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using PDF L<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For PDF L<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol[1]{%
9   \LWR@findcurrenttextcolor%
10  \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11    \csuse{\LWR@font@size}%
12    \LWR@orig@FA%
13    \LWR@orig@symbol{#1}%
14    \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{}{}%
```

```

18   \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20
21 \else
22
23 \newcommand*\LWR@fontawesome@symbolX}[2]{%
24   \LWR@findcurrenttextcolor%
25   \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26   \csuse{\LWR@font@size}%
27   \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28   \LWR@orig@symbol{#1}%
29   \end{lateximage}%
30 }
31
32 \newcommand*\LWR@fontawesome@symbolone}[1]{%
33   \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*\LWR@fontawesome@symboltwo}[1]{%
37   \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*\LWR@fontawesome@symbolthree}[1]{%
41   \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45   \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49   \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53   \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 179 **lwarp-fontawesome5.sty**

§ 288 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5

fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4   \LWR@findcurrenttextcolor
5   \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{

```



---

```

6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}
8 \exp_last_unbraced:Nv
9 \__fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 180 **lwarp-fontaxes.sty**

§ 289 Package **fontaxes**

*(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)*

Pkg fontaxes

fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the lwarp core. Swashes and figure styles are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

```

2 \ifdef{\LWR@HTML@swshape}{}% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\@empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 181 **lwarp-fontenc.sty**

§ 290 Package **fontenc**

Pkg fontenc

If using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp used to require fontenc be loaded before lwarp, but now lwarp itself loads \fontenc with T1 encoding, which lwarp requires. fontenc is now allowed to be loaded with another encoding after lwarp.

lwarp-fontenc is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

File 182 **lwarp-footmisc.sty**

§ 291 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg footmisc

footmisc is emulated.

lwarp incidentally happens to emulate the stable option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemark}{3sp}
17 \providecommand*\multfootsep}{,}
```

Using `cleveref`. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20   \@ifnextchar[%
21     \xmpfootnotemark%
22     {%
23       \stepcounter\@mpfn%
24       \protected@xdef\@thefnmark{\thempfn}%
25       \@footnotemark%
26     }%
27 }
28 \def\xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\@mpfn\endcsname #1\relax%
31   \unrestored@protected@xdef\@thefnmark{\thempfn}%
32   \endgroup%
33   \@footnotemark%
34 }
```

File 183 **lwarp-footnote.sty**

§ 292 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg footnote

footnote is used with minor patches.

**for HTML output:**

footnote patches `\@makefn`text in a strange way. It must be restored to the expected definition before loading footnote, then replaced again after.

```

1 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~{#1}}

6 \def\spewnotes{%
7   \endgroup%
8   \if@savingnotes\else\ifvoid\fn@notes\else\beginngroup%
9     \let\@makefn\empty%
10    \let\@finalstrut\@gobble%
11    \let\rule\@gobbletwo%
12    \booltrue{LWR@spewingnotes}%          lwarp
13    \@footnotetext{\unvbox\fn@notes}%
14  \endgroup\fi\fi%
15 }
16 \let\endsavenotes\spewnotes
17
18
19 \def\fn@fn#1{%
20   \ifx\ifmeasuring@\@undefined%
21     \expandafter\@secondoftwo\else\expandafter\@iden%
22   \fi%
23   {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
24   {%
25     \global\setbox\fn@notes\vbox{%
26       \unvbox\fn@notes%
27       \LWR@htmltagc{\LWR@tagregularparagraph}%          lwarp
28       \LWR@orignewline%                                lwarp
29       \fn@startnote%
30       \@makefn#1{%
31         \rule\z@\footnotesep%
32         \ignorespaces%
33         #1%
34         \@finalstrut\strutbox%
35       }%
36       \fn@endnote%
37     }%
38   }%
39 }

```

Removed print-version formatting:

```
40 \def\fn@startnote{%
```

```

41 % \@parboxrestore%
42 \protected@edef\@currentlabel{\csname p@\@mpfn@endcsname\@thefnmark}%
43 % \color@begingroup% *** conflicts with lwarp
44 }
45
46 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
47 \def\fn@endnote{%
48 \LWR@origtilde\LWR@orignewline%
49 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
50 \LWR@origtilde\LWR@orignewline%
51 }

```

Removed print-version formatting:

```

52 \def\fn@startfntext{%
53 \setbox\z@\vbox\bgroup%
54 \LWR@htmltagc{\LWR@tagregularparagraph}% lwarp
55 \LWR@orignewline% lwarp
56 \fn@startnote%
57 \fn@prefntext% Req'd for numbering.
58 % \rule\z@\footnotesep%
59 \ignorespaces%
60 }
61

```

Removed print-version formatting, added closing paragraph tag:

```

62 \def\fn@endfntext{%
63 \fn@postfntext%
64 \LWR@origtilde\LWR@orignewline%
65 \LWR@htmltagc{/\LWR@tagregularparagraph}%
66 \LWR@orignewline%
67 \egroup%
68 \begingroup%
69 \let\@makefntext\@empty%
70 \let\@finalstrut\@gobble%
71
72 \letLtxMacro\rule\@gobbletwo%
73 \booltrue{LWR@spewingnotes}% lwarp
74 \endgroup%
75 }

```

These have been redefined, so re-\let them again:

```

76 \let\endfootnote\fn@endfntext
77 \let\endfootnotetext\endfootnote

```

---

File 184 **lwarp-footnotebackref.sty**

§ 293 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 185 **lwarp-footnotehyper.sty**

§ 294 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 186 **lwarp-footnoterange.sty**

§ 295 Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg footnoterange footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 187 **lwarp-footnpag.sty**

§ 296 Package **footnpag**

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 188 **lwarp-foreign.sty**

§ 297 Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg foreign foreign is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

```
2 \renewcommand\foreignabbrfont{\emph}
```

---


File 189 **lwarp-forest.sty**

§ 298 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

Pkg forest

forest is patched for use by lwarp.

 **\Forest\*** The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{forest}[2017/07/14]

2 \BeforeBeginEnvironment{forest}{%
3   \begin{lateximage}[-forest~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9   \forest@config{#2}%
10  \IfBooleanTF{#1}{%
11    \PackageError{lwarp-forest}%
12      {\protect\Forest* is not supported}%
13      {Lwarp uses an environment for images,\MessageBreak
14        but \protect\Forest* cannot work in an environment.}%
15    \let\forest@next\forest@env%
16  }{\let\forest@next\forest@group@env}%
17  \begin{lateximage}[-forest~\PackageDiagramAltText]   lwarp
18  \forest@next{#3}%
19  \end{lateximage}%                                   lwarp
20 }
```

---

File 190 **lwarp-fouridx.sty**

§ 299 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

Pkg fouridx

fouridx works as-is with `svg math`, and is emulated for `MATHJAX`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourIdx}[5]{%
5     \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{\#4}%
6   }%
7 }
8 \end{warpMathJax}
```


File 191 **lwarp-fourier.sty**

§ 300 Package **fourier**

*(Emulates or patches code by MICHEL BOVANI.)*

Pkg fourier

fourier is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}
11   {
12     \LWR@mathjax@addgreek@l@up{other}{}
13     \LWR@mathjax@addgreek@u@it*{other}{}
14   }% sloped
15   {% not sloped
16     \IfPackageLoadedWithOptionsTF{fourier}{upright}
17     {% upright option
18       \LWR@mathjax@addgreek@l@up{}{}
19       \LWR@mathjax@addgreek@u@up*{}{}
20       \LWR@mathjax@addgreek@l@it{other}{}
21       \LWR@mathjax@addgreek@u@it*{other}{}
22     }
23     {% neither sloped nor upright
24       \LWR@mathjax@addgreek@l@up{other}{}
25       \LWR@mathjax@addgreek@u@it*{other}{}
26     }
27   }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

lwarp_mathjax.txt adds \left/\right support for delimiters.

35 \CustomizeMathJax{\let\llbracket\lBrack}

```

```

36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45   \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

---

File 192 **lwarp-framed.sty**

§ 301 Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg framed

framed is supported and patched by lwarp.

**for HTML output:** Accept all options for lwarp-framed:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6   \LWR@forcenewpage
7   \BlockClass{framed}%
8 }
9 {\endBlockClass}
10
11 \renewenvironment{oframed}
12 {%
13   \LWR@forcenewpage
14   \BlockClass{framed}%
15 }

```



```

16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22   \LWR@forcenewpage
23   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30   \LWR@forcenewpage
31   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37   \LWR@forcenewpage
38   \BlockClass{framedleftbar}
39   \def\FrameCommand{%
40     \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48   \LWR@forcenewpage
49   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56   \LWR@forcenewpage
57   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66   \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
67 }

\CustomFBox

    {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thicknessstop\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle} {\langle text
contents\rangle}

68 \renewcommand{\CustomFBox}[7]{%
69   \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70   \LWR@forcenewpage

```

```

71 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72 \ifthenelse{\isempty{#1}}{ }{% not empty
73 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74 \textcolor{TFTitleColor}{\textbf{#1}}%
75 \end{BlockClass}%
76 }% not empty
77
78 #7
79
80 \ifthenelse{\isempty{#2}}{ }{% not empty
81 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
82 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83 \textcolor{TFTitleColor}{\textbf{#2}}%
84 \end{BlockClass}%
85 }% not empty
86 \end{BlockClass}%
87 }

```

`\TitleBarFrame``{<marker>}{<title>}{<contents>}`

```

88 \renewcommand\TitleBarFrame[3][ ]{%
89 \CustomFBox%
90 {#2}{ }%
91 \fboxrule\fboxrule\fboxrule\fboxrule%
92 {#3}%
93 }
94 \renewcommand{\TF@Title}[1]{#1}

```

`Env MakeFramed``{<settings>}`

```

95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }

```

`\fb@put@frame``{<frame cmd no split>}{<frame cmd split>}`

```

101 \renewcommand*\fb@put@frame[2]{%
102 \relax%
103 \@tempboxa%
104 }

```

File 193 **lwarp-froufrou.sty**§ 302 Package **froufrou***(Emulates or patches code by NELSON LAGO.)*

Pkg froufrou

**froufrou** is patched for use by **lwarp**.**for HTML output:** 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

2 \ExplSyntaxOn

```

3 \xpretocmd{\setfroufrou}
4   {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5   {}
6   {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \RenewDocumentCommand{\froufrou}{s O{}}{%
10  \nopagebreak[4]\par
11
12  \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
13
14  \nopagebreak[4]\@froufrouospacebefore\nopagebreak[4]
15
16  \bgroup
17   \setfroufrou{#2}%
18   \normalsize
19   \ifdefvoid{\setstretch}{\setstretch{\setspace@singlespace}}% normally 1
20   \setlength{\parskip}{0pt}
21   \noindent\centering\bgroup%
22     \begin{center}%                               lwarp
23     \begin{lateximage}*[froufrou][\LWR@latestfroufrou]%   lwarp
24     \@froufrouOrnament%
25     \end{lateximage}%                               lwarp
26     \end{center}%                                   lwarp
27   \egroup\par
28 \egroup
29
30 \nopagebreak[4]\@froufrouospaceafter\nopagebreak[4]
31
32 \@froufrouFixSpacingAfter
33
34 \nopagebreak[3]
35
36 \@afterheading
37 }

```

---

File 194 **lwarp-ftcap.sty**

§ 303 Package **ftcap**

Pkg ftcap ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 195 **lwarp-ftnright.sty**

§ 304 Package **ftnright**

Pkg ftnright ftnright is ignored.

**for HTML output:** Discard all options for lwarp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 196 **lwarp-fullminipage.sty**

§ 305 Package **fullminipage**

Pkg fullminipage fullminipage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]  
2 \newenvironment{fullminipage}[1][{}]{}

---

File 197 **lwarp-fullpage.sty**

§ 306 Package **fullpage**

Pkg fullpage fullpage is ignored.

**for HTML output:** Discard all options for lwarp-fullpage:  
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]

---

File 198 **lwarp-fullwidth.sty**

§ 307 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

Pkg fullwidth fullwidth is emulated.

A minipage is used, of no HTML width.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]  
2 \newenvironment\*{fullwidth}[1][{}]{%  
3 \minipagefullwidth%  
4 \minipage{\linewidth}%  
5 }  
6 {%  
7 \endminipage%  
8 }

---

File 199 **lwarp-fvextra.sty**

§ 308 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

Pkg fvextra fvextra is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are `highlight`, `showtabs`, `obeytabs`, `tab`, `tabcolor`. Also ignored are all options regarding line breaking except `breaklines`, which is emulated as `true`.

`tabsize` is honored.

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```

2
3 \define@booleankey{FV}{obeytabs}%
4 %   {\let\FV@ObeyTabsInit\FV@@ObeyTabsInit}%
5   {\let\FV@ObeyTabsInit\relax}
6   {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
10
11 \define@key{FV}{tab}{}
12
13 \define@booleankey{FV}{showtabs}%
14 %   {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15   {\let\FV@TabChar\relax}
16   {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21   {\FV@BreakLinesfalse}
22   \booltrue{LWR@FV@breaklines}
23   \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24   {\FV@BreakLinesfalse}
25   \boolfalse{LWR@FV@breaklines}
26   \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}

```

```

54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 %   \hbox to \hsize{%
58 %     \kern\leftmargin
59 %     \hbox to \linewidth{%
60 %       \FV@LeftListNumber%
61 %       \FV@LeftListFrame%
62 %       \FancyVerbFormatLine{%
63 %         \FancyVerbHighLightLine{%
64 %           \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}%\hss
65 %       \FV@RightListFrame%
66 %       \FV@RightListNumber%
67 %     }%
68 %   \hss}%
69 \null\par%           lwarp
70 }
71
72
73 \newcommand*\LWR@FV@linethensep}{%
74   \ifbool{LWR@FV@breaklines}%
75     {\theFancyVerbLine\kern\FV@NumberSep}%
76     {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
77 }
78
79 \newcommand*\LWR@FV@sephenline}{%
80   \ifbool{LWR@FV@breaklines}%
81     {\kern\FV@NumberSep\theFancyVerbLine}%
82     {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
83 }
84
85 \xpatchcmd{\FV@Numbers@left}
86   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
87   {\LWR@FV@linethensep}
88   {}
89   {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
90
91 \xpatchcmd{\FV@Numbers@left}
92   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
93   {\LWR@FV@linethensep}
94   {}
95   {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
96
97 \xpatchcmd{\FV@Numbers@left}
98   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
99   {\LWR@FV@linethensep}
100  {}
101  {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
102
103 \xpatchcmd{\FV@Numbers@right}
104   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
105   {\LWR@FV@sephenline}
106   {}
107   {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
108
109 \xpatchcmd{\FV@Numbers@right}
110   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
111   {\LWR@FV@sephenline}
112   {}
113   {\LWR@patcherror{fvextra}{FV@Numbers@right B}}

```

```

114
115 \xpatchcmd{\FV@Numbers@right}
116   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
117   {\LWR@FV@Linethensep}
118   {}
119   {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
120
121 \xpatchcmd{\FV@Numbers@both}
122   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
123   {\LWR@FV@Linethensep}
124   {}
125   {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
129   {\LWR@FV@Linethensep}
130   {}
131   {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
135   {\LWR@FV@Linethensep}
136   {}
137   {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
141   {\LWR@FV@septhenline}
142   {}
143   {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
147   {\LWR@FV@septhenline}
148   {}
149   {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
153   {\LWR@FV@linethensep}
154   {}
155   {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

---

File 200 **lwarp-fwlw.sty**

§ 309 Package **fwlw**

Pkg fwlw

fwlw is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}

3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}

4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}

5 \def\ps@fwlwhead{}

6 \def\ps@NextWordFoot{}

---

File 201 **lwarp-gensymb.sty**

§ 310 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg gensymb

gensymb works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}
```

---

File 202 **lwarp-gentombow.sty**

§ 311 Package **gentombow**

Pkg gentombow

gentombow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

```
2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 203 **lwarp-geometry.sty**

§ 312 Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

Pkg geometry

geometry is preloaded by lwarp, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for lwarp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If geometry is never loaded by the user, it will be loaded by lwarp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```



Assign and set the selected geometry with reset prepended. `\AtEndPreamble` `lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry}[1]{}
7 \renewcommand*\newgeometry}[1]{}
8 \renewcommand*\restoregeometry{}
9 \renewcommand*\savegeometry}[1]{}
10 \renewcommand*\loadgeometry}[1]{}

```

---

File 204 **lwarp-ghsystem.sty**

§ 313 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg ghsystem

`ghsystem` is patched for use by `lwarp`.

 `\ghspic images` Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF `ghsystem` images, and then convert them with

```
Enter => lwarpmk pdftosvg images/*.pdf
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9   \__ghsystem_includegraphics:xn
10  {
11%     scale = \fp_to_tl:N \__ghsystem_picture_scale_fp
12     width = 1.25cm
13     \exp_not:V \__ghsystem_picture_includegraphics_tl
14   }
15   { ghsystem_ #1 . \__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

---

File 205 **lwarp-gindex.sty**

§ 314 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

Pkg gindex

`gindex` is patched for use by `lwarp`.

See section [8.6.15](#).

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set `\AtBeginDocument` to allow the user to change them. They are then protected so that the `lwarp` core looks for the tokens instead of their expanded contents, since the `*.ind` files will contain `\indexpagesep` and `\indexrangesep` instead of their literal contents. Finally, `lwarp` is told of the `gindex` macros.

```
2 \AtBeginDocument{
3   \robustify{\indexpagesep}
4   \robustify{\indexrangesep}
5   \renewcommand*\IndexPageSeparator{\indexpagesep}
6   \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }
```

`\hyperindexref` is added:

```
8 \def\addindexitem#1#2{%
9   \indexflushitem
10  \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13   \stepcounter{indexsubitems}%
14  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}
```

Uses a `<div>` of class `indexheading`:

```
18 \renewcommand\indexheading[1]{%
19   \begin{BlockClass}{indexheading}
20   \MakeUppercase{#1}%
21   \end{BlockClass}
22 }
```

---

File 206 **lwarp-gloss.sty**

§ 315 Package **gloss**

*(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)*

Pkg gloss

`gloss` is patched for use by `lwarp`.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \xpatchcmd{\gls@gloss@iii}
3   {\thepage}
4   {\theLWR@previousautopagelabel}
5   {}
6   {\LWR@patcherror{gloss}{gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9   \endgroup%
10  \global\@namedef{gls@p#1}{\nameref{\BaseJobname-autopage-#2}}}%

```

File 207 **lwarp-glossaries.sty**


§ 316 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg `glossaries` **processing glossaries**  
 Opt `GlossaryCmd` **Default: `makeglossaries`**  
 Opt `[lwarpmk] printglossary`  
 Opt `[lwarpmk] htmlglossary`

*lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's `makeglossaries` program.

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```

\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}

```

**xindy language** To set the language to use for processing glossaries with *xindy*:

```

\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}

```

Other options for *makeglossaries* may be set as well.

**placement and toc options** The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```

\usepackage[xindy,toc,numberedsection=no]{glossaries}
...
\printglossaries

```

**Unnumbered section, inline with the current HTML page:**

```

\usepackage[xindy,toc]{glossaries}
...
\printglossaries

```

**Unnumbered section, on its own HTML page:**

```

\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries

```

⚠ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerrefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

**print/HTML versions** The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```

1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}

```

Patched to fix TOC pointing to the previous page:

```

7 \renewcommand*{\@pglossarysection}[2]{%
8   \glsclearpage
9   \LWR@phantomsection
10  \ifdefempty\@glossarysecstar
11  {%
12    \csname\@glossarysec\endcsname{#2}%
13  }%
14  {%

```

In the original, the TOC entry was made before the section, thus linking to the `phantomsection` in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the TOC entry is made after the section is created:

```

15    \csname\@glossarysec\endcsname*{#2}%
16    \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17  }%
18  \@glossaryseclabel
19 }

```

`lwarp`'s sectioning commands cannot handle robust macros when splitting HTML into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

```

20 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
21
22 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
23   \translatelet\LWR@translatetemp{Glossary}
24   \edef\glossaryname{\LWR@translatetemp}
25 }{ }
26
27 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
28
29 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
30   \translatelet\LWR@translatetemp{Acronym}
31   \edef\acronymname{\LWR@translatetemp}
32 }{ }

```

```

33
34 \newcommand*\LWR@comp@glssymbolsgroupname{\translate{Symbols (glossaries)}}
35
36 \ifdefstrequal{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
37   \translatelet\LWR@translatetemp{Symbols (glossaries)}
38   \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*\LWR@comp@glnumbersgroupname{\translate{Numbers (glossaries)}}
42
43 \ifdefstrequal{\glnumbersgroupname}{\LWR@comp@glnumbersgroupname}{
44   \translatelet\LWR@translatetemp{Numbers (glossaries)}
45   \edef\glnumbersgroupname{\LWR@translatetemp}
46 }{}

```

---

File 208 **lwarp-gmeometric.sty**

§ 317 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

---

File 209 **lwarp-graphics.sty**

§ 318 Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg graphics graphics is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

```

§ 318.1 **Graphics extensions**

\DeclareGraphicsExtensions {*<list>*}

\AtBeginDocument allow SVG files instead of PDF:

```

2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }

```

Inside a lateximage, allow PDF instead of svg:

```

7 \ifpdf
8 \appto\LWR@restoreorigformatting%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12   \ifXeTeX

```

```

13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16     \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20     \fi
21 \fi

```

## § 318.2 Length conversions and graphics options



**whitespace**

A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*\LWR@igwidthstyle{}
25 \newcommand*\LWR@igheightstyle{}
26 \newcommand*\LWR@igorigin{}
27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale{1}
29 \newcommand*\LWR@igyscale{1}
30
31 \newbool{\LWR@igkeepaspectratio}
32 \boolfalse{\LWR@igkeepaspectratio}
33
34 \newcommand*\LWR@igclass{inlineimage}
35 \newcommand*\LWR@igalt{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes em
46 {}% not em

```

```

47 \IfEndWith{#1}{\}%
48 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}%
51 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes px
52 {}% not px
53 }{}% end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%

```

Default to use the converted fixed length given:

```

59 \renewcommand*\LWR@igheightstyle){%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%

```

If ex or em dimensions were given, use those instead:

```

62 \IfEndWith{#1}{ex}%
63 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
64 {}% not ex
65 \IfEndWith{#1}{em}%
66 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
67 {}% not em
68 \IfEndWith{#1}{\}%
69 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
70 {}% not percent
71 \IfEndWith{#1}{px}%
72 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
73 {}% not px
74 }{}% end of length > 0pt
75 }

```

Handle keepaspectratio key:

```

76 \define@key{igraph}{keepaspectratio}[false]{%
77 \booltrue{\LWR@igkeepaspectratio}%
78 }

```

Handle origin key:

```

79 \define@key{igraph}{origin}[c]{%
80 \renewcommand*\LWR@igorigin}{#1}%
81 }

```

Handle angle key:

```

82 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}

```

Handle class key:

```

83 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}

```

Handle alt key:

```
84 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}
```

It appears that **graphicx** does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
85 \define@key{igraph}{scale}{%
86   \ifthenelse{\equal{#1}{1}}{}{% must expand #1
87     \PackageNote{lwarp}{%
88       It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
89       instead of ‘‘[scale=yy]’’,%
90     }%
91   }%
92   \renewcommand*\LWR@igxscale}{#1}%
93   \renewcommand*\LWR@igyyscale}{#1}%
94 }
```

Numerous ignored keys:

```
95 \define@key{igraph}{bb}{}
96 \define@key{igraph}{bblx}{}
97 \define@key{igraph}{bbly}{}
98 \define@key{igraph}{bburx}{}
99 \define@key{igraph}{bbury}{}
100 \define@key{igraph}{natwidth}{}
101 \define@key{igraph}{natheight}{}
102 \define@key{igraph}{hiresbb}[true]{}
103 \define@key{igraph}{viewport}{}
104 \define@key{igraph}{trim}{}
105 \define@key{igraph}{totalheight}{}
106 \define@key{igraph}{clip}[true]{}
107 \define@key{igraph}{draft}[true]{}
108 \define@key{igraph}{type}{}
109 \define@key{igraph}{ext}{}
110 \define@key{igraph}{read}{}
111 \define@key{igraph}{command}{}

```

New in v1.1a:

```
112 \define@key{igraph}{quite}{}
113 \define@key{igraph}{page}{}
114 \define@key{igraph}{pagebox}{}
115 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```
116 \define@key{igraph}{decodearray}{}

```



§ 318.3 **Printing HTML styles**`\LWR@rotstyle``{\langle prefix \rangle}{\langle degrees \rangle}`

Prints the rotate style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:rotate` style.

```
117 \newcommand*\LWR@rotstyle[2]{%
118   \edef\LWR@tempone{#2}%
119   \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120   #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }
```

`\LWR@scalestyle``{\langle prefix \rangle}{\langle xscale \rangle}{\langle yscale \rangle}`

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:scale` style.

```
122 \newcommand*\LWR@scalestyle[3]{%
123   #1transform:scale(#2,#3);
124 }
```

§ 318.4 **\includegraphics**`\LWR@opacity`

For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the `transparent` package.

```
125 \def\LWR@opacity{1}
```

`\LWR@imagesizebox`

Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile``{\langle w \rangle}{\langle h \rangle}{\langle filename \rangle}` Sets the parsed filename for HTML output.

```
127 \newcommand*\LWR@HTML@Gin@setfile[3]{%
128   \xdef\LWR@parsedfilename{#3}%
129 }
```

`Key[Gin] class`

css class for the image.

Define the new class `key` for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
130 \AtBeginDocument{
131   \define@key{Gin}{class}{}
132 }
```

`\LWR@replaceEPSVG`

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
133 \AtBeginDocument{
134   \IfPackageLoadedTF{epstopdf}
135   {
136     \newcommand*\LWR@replaceEPSVG{}
137   }{%
```

```

138 \newcommand*\LWR@replaceEPSSVG{%
139   \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
140   \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
141 }
142 }%
143 }

```

\* [*2: options*] [*3: options*] [*4: filename*]

\LWR@ig@useactualimagesize

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

144 \newcommand*\LWR@ig@useactualimagesize[4]{%
145   \begingroup%
146   \LWR@restoreorigformatting%
147   \ifpdf%
148   \appto\LWR@restoreorigformatting{%
149     \DeclareGraphicsExtensions{%
150       .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
151     }%
152   }%
153   \else% \ifpdf
154     \ifXeTeX%
155     \appto\LWR@restoreorigformatting{%
156       \DeclareGraphicsExtensions{%
157         .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
158       }%
159     }%
160     \else%
161     \appto\LWR@restoreorigformatting{%
162       \DeclareGraphicsExtensions{%
163         .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
164       }%
165     }%
166     \fi%
167   \fi% \ifpdf

```

For a word processor, do not use rotation:

```

168 \ifbool{FormatWP}{\define@key{Gin}{angle}{}{}}{%
169 \IfBooleanTF{#1}%
170 {% starred
171   \IfValueTF{#3}%
172   {%
173     \global\abox{\LWR@imagesizebox}{%
174       \LWR@originincludegraphics*[#2][#3]{#4}%
175     }%
176   }%
177   {%
178     \IfValueTF{#2}%
179     {%
180       \global\abox{\LWR@imagesizebox}{%
181         \LWR@originincludegraphics*[#2]{#4}%
182       }%
183     }%
184     \global\abox{\LWR@imagesizebox}{%
185       \LWR@originincludegraphics*{#4}%
186     }%
187   }%
188 }%
189 }% starred

```

```

190   {% not starred
191     \IfValueTF{#3}%
192     {%
193       \global\abox{\LWR@imagesizebox}{%
194         \LWR@originincludegraphics[#2][#3]{#4}%
195       }%
196     }%
197     {%
198       \IfValueTF{#2}%
199       {%
200         \global\abox{\LWR@imagesizebox}{%
201           \LWR@originincludegraphics[#2]{#4}%
202         }%
203       }{%
204         \global\abox{\LWR@imagesizebox}{%
205           \LWR@originincludegraphics{#4}%
206         }%
207       }%
208     }%
209   }% not starred
210 \endgroup%
211 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
212 \global\renewcommand*\LWR@igwidthstyle{%
213   width:\LWR@printlength{\LWR@igwidth}%
214 }%
215 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
216 \global\renewcommand*\LWR@igheightstyle{%
217   height:\LWR@printlength{\LWR@igheight}%
218 }%
219 }

```

\LWR@ightmltag

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

220 \newcommand*\LWR@ightmltag{%
221   img\LWR@indentHTML%
222   src=\textquotedbl%
223   \detokenize\expandafter{\LWR@parsedfilename}%
224   \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

225   \ifthenelse{
226     \NOT\equal{\LWR@igwidthstyle}{ } \OR
227     \NOT\equal{\LWR@igheightstyle}{ } \OR
228     \NOT\equal{\LWR@igorigin}{ } \OR
229     \NOT\equal{\LWR@igangle}{ } \OR
230     \NOT\equal{\LWR@igxscale}{1} \OR
231     \NOT\equal{\LWR@igyscale}{1}
232   }%
233   {%
234     style=\textquotedbl\LWR@indentHTML
235     \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
236       {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
237     \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
238       {\LWR@igheightstyle;\LWR@indentHTML}{ }%
239     \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
240       {
241         transform-origin: \LWR@originnames{\LWR@igorigin};%

```

```

242         \LWR@indentHTML%
243     }{ }%
244     \ifthenelse{\NOT\equal{\LWR@igangle}{}}%
245     {%
246         \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
247         \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
248         \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
249     }{ }%
250     \ifthenelse{%
251         \NOT\equal{\LWR@igxscale}{1}\OR%
252         \NOT\equal{\LWR@igyscale}{1}%
253     }%
254     {%
255         \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
256         \LWR@indentHTML
257         \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
258         \LWR@indentHTML
259         \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
260         \LWR@indentHTML
261     }{ }%
262     %
263     \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
264     {opacity:\LWR@opacity;\LWR@indentHTML}{ }%
265     %
266     \textquotedbl\LWR@indentHTML%
267 }{ }%

```

Set the class and alt tag:

```

268     class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
269     alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
270 }% end of image tags

```

`\LWR@includegraphicsb`

\* [*2: options*] [*3: options*] [*4: filename*]

graphics syntax is `\includegraphics * [llx, lly] [urx, ury] {filename}`

graphicx syntax is `\includegraphics [key values] {filename}`

If #3 is empty, only one optional argument was given, thus graphicx syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```

271 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
272 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

273     \LWR@origtilde \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

274     \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

275     \large%

```

Temporarily prevent underfull `\hbox` warnings.

```

276     \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

277 \setlength{\LWR@igwidth}{0pt}%
278 \setlength{\LWR@igheight}{0pt}%
279 \renewcommand*\LWR@igwidthstyle{}%
280 \renewcommand*\LWR@igheightstyle{}%
281 \renewcommand*\LWR@igorigin{}%
282 \renewcommand*\LWR@igangle{}%
283 \renewcommand*\LWR@igxscale{1}%
284 \renewcommand*\LWR@igyscale{1}%
285 \renewcommand*\LWR@igclass{inlineimage}%
286 \boolfalse\LWR@igkeepaspectratio%

287 \ifdefvoid{\LWR@ThisAltText}{%
288   \edef\LWR@igalt{\ImageAltText}%
289 }{%
290   \edef\LWR@igalt{\LWR@ThisAltText}%
291 }%

```

If #3 is empty, only one optional argument was given, thus graphicx syntax:

```

292 \IfValueF{#3}{%
293   \IfValueTF{#2}%
294     {\setkeys{igraph}{#2}}%
295     {\setkeys{igraph}{}}%
296 }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

297 \begingroup%
298 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
299 \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

300 \StrSubstitute{\LWR@tempone}{.pdf}{}[\LWR@tempone]%
301 \StrSubstitute{\LWR@tempone}{.PDF}{}[\LWR@tempone]%

302 \LWR@replaceEPSSVG%
303 \xdef\LWR@parsedfilename{\LWR@tempone}%
304 \Gin@include@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
305 \endgroup%
306 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

307 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
308 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

309 \ifboolexpr{
310   bool {FormatWP} or
311   bool {\LWR@igkeepaspectratio}
312 }{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```
313 \LWR@traceinfo{LWR@includegraphicsb: about to create href}%
314 \LWR@href{\LWR@parsedfilename}%
315 {% start of href
316     \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
317     \LWR@htmltag{\LWR@ig@htmltag}%
318 }% end of href
```

Return to original page size and font size:

```
319 \end{LWR@setvirtualpage}%
```

Clear the single-use alt text:

```
320 \gdef\LWR@ThisAltText{}%
321 \LWR@traceinfo{LWR@includegraphicsb done}%
322 }
```

`\includegraphics` [*<key=val>*] {*<filename>*}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```
323 \AtBeginDocument{
324
325 \LWR@traceinfo{Patching includegraphics.}
326
327 \let\ltxmacro\LWR@originincludegraphics\includegraphics
```

```
328 \renewrobustcmd*{\includegraphics}
329 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
330 \LWR@traceinfo{includegraphics}%
331 \LWR@ensuredoingapar%
332 \LWR@includegraphicsb%
333 }% includegraphics
334 }% AtBeginDocument
```

### § 318.5 Boxes

`\LWR@rotboxorigin`

Holds the origin key letters.

```
335 \newcommand*{\LWR@rotboxorigin}{}
```

`\LWR@originname`

{*<letter>*}

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```
336 \newcommand*{\LWR@originname}[1]{%
337     \ifthenelse{\equal{#1}{t}}{top}{}%
338     \ifthenelse{\equal{#1}{b}}{bottom}{}%
339     \ifthenelse{\equal{#1}{c}}{center}{}%
340     \ifthenelse{\equal{#1}{l}}{left}{}%
341     \ifthenelse{\equal{#1}{r}}{right}{}%
342 }
```

`\LWR@originnames``{\langle letters \rangle}`

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
343 \newcommand*\LWR@originnames[1]{%
344 \StrChar{#1}{1}[\LWR@strresult]%
345 \LWR@originname{\LWR@strresult}
346 \StrChar{#1}{2}[\LWR@strresult]%
347 \LWR@originname{\LWR@strresult}
348 }
```

Handle the origin key for `\rotatebox`:

```
349 \define@key{krotbox}{origin}{%
350 \renewcommand*\LWR@rotboxorigin{#1}%
351 }
```

These keys are ignored:

```
352 \define@key{krotbox}{x}{}
353 \define@key{krotbox}{y}{}
354 \define@key{krotbox}{units}{}

```

`\rotatebox` [*keyval list*] [*angle*] [*text*]

```
355 \AtBeginDocument{
```

The HTML version:

```
356 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%
```

Reset the origin to “none-given”:

```
357 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
358 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
359 \LWR@htmltagc{%
360   span\LWR@indentHTML
361   style=\textquotedbl\LWR@indentHTML
362   display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
363   \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{} }{%
364     {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
365     {}}%
```

Print the rotation information:

```
366   \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
367   \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
368   \LWR@rotstyle{}{#2}\textquotedbl\LWR@originewline%
369 }\LWR@originewline%
```

Print the text to be rotated:

```
370 \begin{LWR@nestspan}%
371 #3%
```

Close the span:

```
372 \LWR@htmltagc{/span}%
373 \end{LWR@nestspan}%
374 }
```

The high-level interface:

```
375 \LWR@formatted{rotatebox}
376
377 }% AtBeginDocument
```

`\scalebox`  $\{ \langle h-scale \rangle \} [ \langle v-scale \rangle ] \{ \langle text \rangle \}$

```
378 \AtBeginDocument{
```

The HTML version:

```
379 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
380 \LWR@htmltagc{%
381   span\LWR@indentHTML
382   style=\textquotedbl\LWR@indentHTML
383   display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
384   \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
385   \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386   \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
387   \textquotedbl\LWR@orignewline
388 }\LWR@orignewline%
```

Print the text to be scaled:

```
389 \begin{LWR@nestspan}%
390 #3%
```

Close the span:

```
391 \LWR@htmltagc{/span}%
392 \end{LWR@nestspan}%
393 }
```

The high-level interface:

```
394 \LWR@formatted{scalebox}
395
396 }% AtBeginDocument
```



`\reflectbox`  $\{\langle text \rangle\}$

```

397 \AtBeginDocument{
398
399 \newcommand{\LWR@HTML@reflectbox}[1]{%
400   \scalebox{-1}[1]{#1}%
401 }% \reflectbox
402
403 \LWR@formatted{reflectbox}
404
405 }% AtBeginDocument

```

`\resizebox`  $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```

406 \AtBeginDocument{
407
408 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
409   #4%
410 }
411
412 \LWR@formatted{resizebox}
413
414 }% AtBeginDocument

```

---

File 210 **lwarp-graphicx.sty**

§ 319 Package **graphicx**

Pkg graphicx

graphicx is emulated.

graphicx loads graphics, which also loads lwarp-graphics, which remembers the original graphics definitions for use inside a lateximage, and then patches them \AtBeginDocument for HTML output.

lwarp-graphics handles the syntax of either graphics or graphicx.

**for HTML output:** `1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]`

---

File 211 **lwarp-grffile.sty**

§ 320 Package **grffile**

Pkg grffile

grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

lwarp-grffile now exists as a placeholder since grffile used to be emulated by lwarp, and thus older versions of lwarp-grffile may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`



matching PDF and SVG

File 212 **lwarp-grid.sty**§ 321 Package **grid**

Pkg grid grid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

File 213 **lwarp-grid-system.sty**§ 322 Package **grid-system***(Emulates or patches code by MARCUS BITZL.)*

Pkg grid-system grid-system is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}

3

4 \ifdef{\endrow}{

5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}

6 }{}

7

8 \renewcommand{\gridssystem@finishcell}{\hspace{\gridssystem@cellsep}}

File 214 **lwarp-gridset.sty**§ 323 Package **gridset**

Pkg gridset gridset is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

2 \newcommand\*{\gridbase}{}{}

3 \newcommand\*{\gridinterval}{}{}

4 \newcommand\*{\SavePos}[1]{}{}

5 \ifLuaTeX

6 \else

7 \let\savepos\SavePos

8 \fi

9 \newcommand\*{\vskipnextgrid}{}{}

10 \newcommand\*{\thegridinfo}[1]{(thegridinfo)}

11 \newcommand\*{\theposinfo}[1]{(theposinfo)}

12 \newcommand\*{\theypos}[1]{(theypos)}

File 215 **lwarp-hang.sty**

§ 324 Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg hang

hang is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]
2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14   \LWR@findhangingleftmargin%
15   \BlockClass[%
16     \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17     \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
18   ]%
19   {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25   \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26   \renewcommand*\LWR@printopenlist{%
27     \LWR@findhangingleftmargin%
28     ul style=\textquotedbl%
29     \LWR@print@embox{list-style-type:none;} % extra space
30     \LWR@print@embox{%
31       margin-left:\LWR@printlength{\LWR@templengthone}%
32     } ; % extra space
33     \LWR@print@embox{%
34       text-indent:-\LWR@printlength{\hangingindent}%
35     }%
36     \textquotedbl%
37   }%
38   \LetLtxMacro\item\LWR@itemizeitem%
39   \list{}{}%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}

```

```

48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52   \BlockClass[%
53     \LWR@findhangingleftmargin%
54     \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55     \LWR@print@mbbox{text-indent:-\LWR@printlength{\hangingindent}}%
56   ][labeledpar]#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 216 **lwarp-hanging.sty**

§ 325 Package **hanging**

Pkg hanging hanging is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \IfClassLoadedTF{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

```

\hangpara  $\langle indent \rangle \langle afternum \rangle$

**Use hangparas instead.**

```
9 \newcommand*\hangpara[2]{}

```

Env hangparas  $\langle indent \rangle \langle afternum \rangle$

```

10 \newenvironment*{hangparas}[2]
11 {%
12   \BlockClass[%
13     \LWR@print@mbbox{margin-left:\LWR@printlength{#1}} ; %
14     \LWR@print@mbbox{text-indent:-\LWR@printlength{#1}}%
15   ]%
16   {hangingpar}%
17 }
18 {\endBlockClass}

```

Env hangpunct

```

19 \newenvironment*{hangpunct}
20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{‘}
24 \newcommand{\nhrq}{’}

```

---

File 217 **lwarp-hepunits.sty**

§ 326 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg hepunits

hepunits is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi

```

```

41
42 \CustomizeMathJax{\newcommand{\electronvolt}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\TeV\electronvolt}
45 \CustomizeMathJax{\let\TeVsq\electronvoltsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\TeV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\TeV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\TeV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\TeV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\TeV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\TeVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\TeVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\TeVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\TeVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\TeVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\TeVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\TeVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\TeVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\TeVcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\TeVcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 218 **lwarp-hhline.sty**

§ 327 Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg hhline

hhline is patched for use by lwarp.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]
2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3   \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4   \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 219 **lwarp-hhtensor.sty**

§ 328 Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg hhtensor

hhtensor is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

2 \begin{warpMathJax}
3 \iftensor@bold
4   \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5   \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6   \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8   \iftensor@uLine
9     \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10    \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11    \CustomizeMathJax{\newcommand{\tens}[2]{
12      \underset{
13        \raise{.5ex}{\underset{#2}{\sim}}
14      }{#1}
15    }}
16 \else
17   \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18   \CustomizeMathJax{\newcommand{\tens}[2]{
19     \underset{
20       \raise{.5ex}{\underset{#2}{\sim}}
21     }{#1}
22   }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{\textsuperscript{\mathrm{T}}}}
27 \end{warpMathJax}

```

---

File 220 **lwarp-hypbmsec.sty**

§ 329 Package **hypbmsec**

Pkg hypbmsec

hypbmsec is emulated by the lwarp core.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

```

---

File 221 **lwarp-hypcap.sty**

§ 330 Package **hypcap**

Pkg hypcap

hypcap is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

2 \newcommand*\capstart{}
3 \newcommand*\hypcapspace{}
4 \newcommand*\hypcapredef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}

```

---

File 222 **lwarp-hypdestopt.sty**

§ 331 Package **hypdestopt**

Pkg hypdestopt hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 223 **lwarp-hypernat.sty**

§ 332 Package **hypernat**

Pkg hypernat hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 224 **lwarp-hyperref.sty**

§ 333 Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

Pkg hyperref hyperref is emulated.

**for HTML output:**

```

1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed
2 % \ProvidesPackage{lwarp-#1-#2}% not allowed
3 \PackageInfo{lwarp}{%
4 Using the lwarp HTML version of package ‘hyperref’,\MessageBreak
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp’s version of ‘hyperref’.)\MessageBreak}

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}

```



```
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertextnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvi-pdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}

```

```
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpageLabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{français}[]{}
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}

```

```
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvi pdfm}[]{}
144 \define@key{LWR@hyperref}{dvi pdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtex pdfmark}[]{}
151 \define@key{LWR@hyperref}{dviwindo}[]{}
152 \define@key{LWR@hyperref}{dvipsone}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hide links}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{no links}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}
169 \define@key{LWR@hyperref}{dvi pdfm}[]{}
170 \define@key{LWR@hyperref}{dvi pdfmx}[]{}
171 \define@key{LWR@hyperref}{dvi pdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtex pdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsone}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driver fallback}[]{}
184 \define@key{LWR@hyperref}{custom driver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}
187 \define@key{LWR@hyperref}{ocg color links}[]{}
188 \define@key{LWR@hyperref}{color links}[]{}
189 \define@key{LWR@hyperref}{french links}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{page backref}[]{}
192 \define@key{LWR@hyperref}{dest label}[]{}
193 \define@key{LWR@hyperref}{pdf pages crop}[]{}
194 \define@key{LWR@hyperref}{pdf page mode}[]{}
195 \define@key{LWR@hyperref}{pdf non full screen page mode}[]{}
196 \define@key{LWR@hyperref}{pdf direction}[]{}
197 \define@key{LWR@hyperref}{pdf view area}[]{}
198 \define@key{LWR@hyperref}{pdf view clip}[]{}

```

```

199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}
224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}
227 \define@key{LWR@hyperref}{urlcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240   {\RequirePackage{backref}}
241   {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244   {\RequirePackage{backref}}
245   {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248   {\RequirePackage{backref}}
249   {}
250
251 \ifLWR@hyperref@pagebackref
252   \RequirePackage{backref}
253 \fi

```

```

254 \LetLtxMacro\href\LWR@href
255 \LetLtxMacro\nolinkurl\LWR@nolinkurl
256 \LetLtxMacro\url\LWR@url
257 \LetLtxMacro\phantomsection\LWR@phantomsection

```

```
258 \newcommand*\hyperbaseurl[1]{}
```

No application for lwarp:

```

259 \newcommand*\HyperDestNameFilter[1]{#1}
260 \newcommand*\HyperDestLabelReplace[1]{#1}
261 \newcommand*\HyperDestRename[2]{ }

```

No application for lwarp:

```
262 \newcommand*\hyperget[2]{ }
```

\hyperimage

`{<URL>} {<alt text>}`

Insert an image with alt text:

```

263 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
264   \LWR@ensuredoingapar%
265   \def\LWR@templink{#1}%
266   \@onelevel@sanitize\LWR@templink%
267   \LWR@htmltag{%
268     img src=\textquotedbl\LWR@templink\textquotedbl\ %
269     alt=\textquotedbl#2\textquotedbl\ %
270     class=\textquotedbl{}hyperimage\textquotedbl%
271   }%
272   \LWR@ensuredoingapar%
273   \endgroup%
274 }
275
276 \newrobustcmd*\hyperimage{%
277   \begingroup%
278   \LWR@linkcatcodes%
279   \LWR@hyperimageb%
280 }
281

```

\hyperdef

`{<1: category>} {<2: name>} {<3: text>}`

Creates an HTML anchor to category.name with the given text.

```

282 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
283   \LWR@ensuredoingapar%
284   \LWR@label@createtag{#1.#2}%
285   #3%
286   \endgroup%
287 }
288
289 \newcommand*\hyperdef{%
290   \begingroup%
291   \LWR@linkcatcodes%
292   \LWR@hyperdefb%
293 }
294

```

`\LWR@hyperrefb``{\langle 1: URL \rangle} {\langle 2: category \rangle} {\langle 3: name \rangle} {\langle 4: text \rangle}`Creates an HTML link to `URL#category.name` with the given text.

```

295 \newcommand{\LWR@hyperreffinish}[1]{%
296   \begingroup%
297   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
298   #1%
299   \endgroup%
300   \LWR@htmltag{/a}%
301 }
302
303 \newcommand*{\LWR@hyperrefbb}[3]{%
304   \LWR@htmltag{%
305     a href=\textquotedbl%
306       \detokenize\expandafter{#1}\LWR@hashmark%
307       \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
308     \textquotedbl%
309     \LWR@addlinktitle%
310   }%
311   \endgroup%
312   \LWR@hyperreffinish%
313 }
314
315 \newrobustcmd*{\LWR@hyperrefb}{%
316   \begingroup%
317   \LWR@linkcatcodes%
318   \LWR@hyperrefbb%
319 }

```

`\LWR@hyperrefc``[\langle label \rangle] {\langle text \rangle}`Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```

320 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
321   \LWR@startref{#1}%
322   \endgroup%
323   \LWR@hyperreffinish%
324 }
325
326 \newcommand*{\LWR@hyperrefc}{%
327   \begingroup%
328   \LWR@linkcatcodes%
329   \LWR@hyperrefcb%
330 }

```

`\hyperref`
`{\langle 1: URL \rangle} {\langle 2: category \rangle} {\langle 3: name \rangle} {\langle 4: text \rangle} — or —`  
`[\langle 1: label \rangle] {\langle 2: text \rangle}`

```

331 \DeclareRobustCommand*{\hyperref}{%
332   \LWR@ensuredoingapar%
333   \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
334 }

```

`\hypertarget``{\langle name \rangle} {\langle text \rangle}`

Creates an anchor to name with the given text.

```

335 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
336   \Label{\LWR-ht-#1}%
337   #2%

```

```

338   \endgroup%
339 }
340
341 \newcommand*{\hypertarget}{%
342   \LWR@ensuredoingapar%
343   \begingroup%
344   \LWR@linkcatcodes%
345   \LWR@hypertargetb%
346 }

```

`\hyperlink`

`{\langle name \rangle}{\langle text \rangle}`

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

347 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
348   \ifbool{LWR@insidemathcomment}%
349     {\endgroup}%
350     {\LWR@hyperrefcb[LWR-ht-#1]}%
351 }
352
353 \DeclareDocumentCommand{\hyperlink}{}{%
354   \LWR@ensuredoingapar%
355   \begingroup%
356   \LWR@linkcatcodes%
357   \LWR@hyperlinkb%
358 }

```

`\LWR@nullify@hyperref`

`{\langle 1: URL \rangle}{\langle 2: category \rangle}{\langle 3: name \rangle}{\langle 4: text \rangle}` — or —  
`[\langle 1: label \rangle]{\langle 2: text \rangle}`

```

359 \newcommand{\LWR@nullify@hyperrefb}[2][{}]{
360
361 \newcommand*{\LWR@nullify@hyperref}{%
362   \@ifnextchar[\LWR@nullify@hyperrefb\@fourthoffour%
363 }

```

To nullify in a `lateximage` or `svg` math. `\hypertarget` must be left active for references to work, and does not harm.

```

364 \appto\LWR@restoreorigformatting{%
365   \LetLtxMacro\hyperdef\@thirdofthree
366   \LetLtxMacro\hyperlink\@secondoftwo%
367   \LetLtxMacro\hyperref\LWR@nullify@hyperref%
368 }

```

`\autoref`

`*{\langle label \rangle}`

For HTML, `\cleveref` is used instead.

```

369 \NewDocumentCommand{\autoref}{s m}{%
370   \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
371 }

```

`\autopageref`

`{\langle label \rangle}`

For HTML, `\cleveref` is used instead.

```

372 \NewDocumentCommand{\autopageref}{s m}{%

```

```

373 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
374 }

```

#### Default names:

```

375 \def\equationautorefname{Equation}%
376 \def\footnoteautorefname{footnote}%
377 \def\itemautorefname{item}%
378 \def\figureautorefname{Figure}%
379 \def\tableautorefname{Table}%
380 \def\partautorefname{Part}%
381 \def\appendixautorefname{Appendix}%
382 \def\chapterautorefname{chapter}%
383 \def\sectionautorefname{section}%
384 \def\subsectionautorefname{subsection}%
385 \def\subsubsectionautorefname{subsubsection}%
386 \def\paragraphautorefname{paragraph}%
387 \def\subparagraphautorefname{subparagraph}%
388 \def\FancyVerbLineautorefname{line}%
389 \def\theoremautorefname{Theorem}%
390 \def\pageautorefname{page}%

```

```
\pdfstringdef      {<macroname>} {<TEXstring>}
```

```
391 \newcommand{\pdfstringdef}[2]{}
```

```
\pdfbookmark      [<level>] {<text>} {<name>}
```

```
392 \newcommand{\pdfbookmark}[3][[]]{}
```

```
\currentpdfbookmark {<text>} {<name>}
```

```
393 \newcommand{\currentpdfbookmark}[2]{}
```

```
\subpdfbookmark   {<text>} {<name>}
```

```
394 \newcommand{\subpdfbookmark}[2]{}
```

```
\belowpdfbookmark {<text>} {<name>}
```

```
395 \newcommand{\belowpdfbookmark}[2]{}
```

```
\texorpdfstring   {<TEXstring>} {<PDFstring>}
```

```
396 \let\texorpdfstring\relax
```

```
397 \newcommand{\texorpdfstring}[2]{#1}
```

```
{<commands>}
```

```
\pdfstringdefDisableCommands
```

```
398 \newcommand{\pdfstringdefDisableCommands}[1]{}
```

```
\hypercalcbp      {<dimen>} From hyperref.
```

```
399 \def\hypercalcbp#1{%
```

```
400 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
```

```
401 }%
```



---

|                                 |                                                                                                                                                    |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\Acrobatmenu</code>       | $\{\langle menuoption \rangle\} \{\langle text \rangle\}$<br>402 <code>\newcommand{\Acrobatmenu}[2]{}</code>                                       |
| <code>\TextField</code>         | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>403 <code>\DeclareRobustCommand{\TextField}[2][{}]</code>                              |
| <code>\CheckBox</code>          | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>404 <code>\DeclareRobustCommand{\CheckBox}[2][{}]</code>                               |
| <code>\ChoiceMenu</code>        | $[\langle parameters \rangle] \{\langle label \rangle\} \{\langle choices \rangle\}$<br>405 <code>\DeclareRobustCommand{\ChoiceMenu}[3][{}]</code> |
| <code>\PushButton</code>        | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>406 <code>\DeclareRobustCommand{\PushButton}[2][{}]</code>                             |
| <code>\Submit</code>            | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>407 <code>\DeclareRobustCommand{\Submit}[2][{}]</code>                                 |
| <code>\Reset</code>             | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>408 <code>\DeclareRobustCommand{\Reset}[2][{}]</code>                                  |
| <code>\Gauge</code>             | $[\langle parameters \rangle] \{\langle label \rangle\}$<br>409 <code>\DeclareRobustCommand{\Gauge}[2][{}]</code>                                  |
| <code>\LayoutTextField</code>   | $\{\langle label \rangle\} \{\langle field \rangle\}$<br>410 <code>\newcommand*{\LayoutTextField}[2]{}</code>                                      |
| <code>\LayoutChoiceField</code> | $\{\langle label \rangle\} \{\langle field \rangle\}$<br>411 <code>\newcommand*{\LayoutChoiceField}[2]{}</code>                                    |
| <code>\LayoutCheckField</code>  | $\{\langle label \rangle\} \{\langle field \rangle\}$<br>412 <code>\newcommand*{\LayoutCheckField}[2]{}</code>                                     |
| <code>\MakeRadioField</code>    | $\{\langle width \rangle\} \{\langle height \rangle\}$<br>413 <code>\newcommand*{\MakeRadioField}[2]{}</code>                                      |
| <code>\MakeCheckField</code>    | $\{\langle width \rangle\} \{\langle height \rangle\}$<br>414 <code>\newcommand*{\MakeCheckField}[2]{}</code>                                      |
| <code>\MakeTextField</code>     | $\{\langle width \rangle\} \{\langle height \rangle\}$                                                                                             |

```
415 \newcommand*\MakeTextField}[2]{}
```

```
\MakeChoiceField      {\langle width \rangle} {\langle height \rangle}
```

```
416 \newcommand*\MakeChoiceField}[2]{}
```

```
\MakeFieldButton      {\langle text \rangle}
```

```
417 \newcommand\MakeFieldButton}[1]{}
```

File 225 **lwarp-hyperxmp.sty**

§ 334 Package **hyperxmp**

Pkg hyperxmp

hyperxmp is ignored.

**for HTML output:** Discard all options for lwarp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadate}[]{}
5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdfstype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthortitle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}

```

```

40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

---

File 226 **lwarp-hyphenat.sty**

§ 335 Package **hyphenat**

Pkg hyphenat

hyphenat is emulated during HTML output, while the print-mode version is used inside a latex image.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@originohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonyhyp\colonyhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16   \ifmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonyhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@originohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonyhyp\LWRHYNAT@origcolonyhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 227 **lwarp-idxlayout.sty**

§ 336 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

Pkg idxlayout

idxlayout is emulated.

**for HTML output:**

Discard all options for lwarp-idxlayout:

```
1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
```

```
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```
3 \AtBeginDocument{
4   \preto\printindex{
5
6   \LWR@maybe@orignewpage
7   \LWR@startpars
8
9   \LWR@indexprenote
10
11  }
12 }
```

```
13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*\@noindexprenote{\renewcommand{\LWR@indexprenote}{} }
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*\@indexfont{}
18 \newcommand*\@indexjustific{}
19 \newcommand*\@indexsubsdelim{}
20 \newcommand*\@indexstheadcase{}

```

File 228 **lwarp-ifoddpag.sty**§ 337 Package **ifoddpag***(Emulates or patches code by MARTIN SCHARRER.)*

Pkg ifoddpag

ifoddpag is emulated.

**for HTML output:**

Discard all options for lwarp-ifoddpag:

```
1 \LWR@ProvidesPackageDrop{ifoddpag}[2016/04/23]
```

```
2 \newif\ifoddpag
3
4 \newif\ifoddpagoroneside
5
6 \DeclareRobustCommand{\checkoddpag}{\oddpagtrue\oddpagoronesidetrue}
7
8 \def\oddpag@page{1}
9
10 \def\@ifoddpag{%
11   \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpagoroneside{%
15   \expandafter\@firstoftwo
16 }
```

File 229 **lwarp-imakeidx.sty**

§ 338 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx

imakeidx is patched for use by lwarp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

**index setup** See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode'\_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode'\_ =8%
```

\printindex

The HTML version of \printindex:

```
5 \catcode'\_ =12%
6
7 \renewcommand*\printindex}[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \@ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \@ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode'\_ =8%
```

\@index

The HTML version of \@index:

```
22 \catcode'\_ =12%
23
24 \def\@index[#1]{%
25 \ifstrequal{#1}{\imki@jobname}%
26 {%
27 \@ifundefined{#1@idxfile}%
```

```

28     {%
29     \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
30     \begingroup
31     \@sanitize
32     \imki@nowrindex%
33     }%
34     {%
35     \edef\@idxfile{#1}%
36     \begingroup
37     \@sanitize
38     \@wrindex\@idxfile%
39     }%
40 }%
41 {%
42 \@ifundefined{#1_html@idxfile}%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 {%
50 \edef\@idxfile{#1_html}%
51 \begingroup
52 \@sanitize
53 \@wrindex\@idxfile%
54 }%
55 }%
56 }
57
58 \catcode'\_ =8%
```

\item

\subitem

\subsubitem

HTML versions of \item, etc.:

```

59 \appto\theindex{%
60 \LetLtxMacro\item\LWR@indexitem%
61 \LetLtxMacro\subitem\LWR@indexsubitem%
62 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
63 }
```

\imki@wrindexentrysplit    {<file>}{<entry>}{<page>}

\imki@wrindexentryunique    {<file>}{<entry>}{<page>}

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{LWR@autoindex}{1}%
66 \expandafter\protected@write\csname#1@idxfile\endcsname{%
67 \string\indexentry{#2}\arabic{LWR@autoindex}}%
```

The label is assigned after the file write to avoid conflict with cleveref.

```

68 \label{LWRindex-\arabic{LWR@autoindex}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{LWR@autoindex}{1}%
```

```

73 \protected@write\@indexfile{}%
74   {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

75 \label{LWRindex-\arabic{LWR@autoindex}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showindexentry{#1}{#2}%
81 \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showindexentry{#1}{#2}%
87 \@esphack%
88 }
89

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*\LWR@imki@setxdydefopts{%
91   \edef\imki@options{ \space %
92     -M \space \LWR@xindyStyle\space %
93     -L \space \LWR@xindyLanguage\space %
94     -C \space \LWR@xindyCodepage\space %
95   }%
96 }

```

`\LWR@imki@setdefopts`

`{\langle user options \rangle}`

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the `lwarp` version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the `lwarp` version is appended.

```

97 \newcommand*\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

`\imki@makeindex`

Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108   {\let\imki@options\space}
109   {\LWR@imki@setdefopts}{}%
110   {}
111   {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```
112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

`\imki@resetdefaults`

Use the new HTML options:

```
113 \xpatchcmd{\imki@resetdefaults}
114   {\def\imki@options{ }}
115   {\LWR@imki@setdefopts{}}
116   {}
117   {\LWR@patcherror{imakeidx}{resetdefaults}}
```

`theindex` was already defined `\AtBeginDocument` by the `lwarp` core, so it must be redefined here similarly, but patched for `imakeidx`:

Env `theindex`

```
118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120   \imki@maybeaddtotoc
121   \imki@indexlevel{\indexname}
122   \LetLtxMacro\item\LWR@indexitem%
123   \LetLtxMacro\subitem\LWR@indexsubitem%
124   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
125 }{}
126 }% AtBeginDocument
```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

`\AtBeginDocument` is because `\@wrindex` is previously defined as `\AtBeginDocument` in the `lwarp` core.

```
128 \ifimki@splitindex
129   \let\imki@startidx\imki@startidxunique
130   \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131   \let\imki@putindex\imki@putindexunique
132   \let\imki@wrindexentry\imki@wrindexentryunique
133   \let\imki@startidxsplit\@undefined
134   \let\imki@wrindexsplit\@undefined
135   \let\imki@putindexsplit\@undefined
136 \else
137   \let\imki@startidx\imki@startidxsplit
138   \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139   \let\imki@putindex\imki@putindexsplit
140   \let\imki@wrindexentry\imki@wrindexentrysplit
141   \let\imki@startidxunique\@undefined
142   \let\imki@wrindexunique\@undefined
143   \let\imki@putindexunique\@undefined
144 \fi
```



---

File 230 **lwarp-impnatty.sty**

§ 339 Package **impnatty**

Pkg impnatty impnatty is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

---

File 231 **lwarp-index.sty**

§ 340 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

Pkg index index is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use `\theLWR@autoindex` instead of `\thepage`. `\@tempwatrue` is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3   {\x@newindex[thepage]}
4   {%
5     \@tempwatrue%
6     \x@newindex[theLWR@autoindex]%
7   }
8   {}
9   {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[thepage]}
13   {%
14     \@tempwatrue%
15     \x@renewindex[theLWR@autoindex]%
16   }
17   {}
18   {\LWR@patcherror{index}{renewindex}}
```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20   {\begingroup}
21   {%
22     \addtocounter{LWR@autoindex}{1}%           lwarp
23     \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}
```

`\AtBeginDocument` `lwarp core \lets \@wrindex` to `\LWR@wrindex`. Since the `index` package has been loaded, `\let` to its version instead:

```
28 \let\LWR@index@wrindex\@wrindex
29
30 \AtBeginDocument{
31 \let\@wrindex\LWR@index@wrindex
32 }
```

Modified to add `\index@prologue`:

```
33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35   \LWR@indexsection{\indexname}%
36   \ifx\index@prologue\@empty\else
37     \index@prologue
38     \bigskip
39   \fi
40   \LetLtxMacro\item\LWR@indexitem%
41   \LetLtxMacro\subitem\LWR@indexsubitem%
42   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
43 }{}
44 }% AtBeginDocument
```

Disabled:

```
45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*{\raggedbottom}{}
48 \renewcommand*{\flushbottom}{}
49 \renewcommand*{\markboth}[2]{}
50 \renewcommand*{\markright}[1]{}

```

---

File 232 **lwarp-inputtrc.sty**

§ 341 Package **inputtrc**

*(Emulates or patches code by Uwe Lück.)*

Pkg inputtrc

inputtrc is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `lateximage`.

```
2 \renewcommand*{\IT@prim@input}[1]{%
3   \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 % ... TODO: option to write to '.log' only.
5   \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
6   \xdef\IT@currfile{#1}%
7   \expandafter \gdef\expandafter \IT@indent\expandafter{%
8     \IT@indent \IT@indent@unit}%
9   \@@input#1
10  \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
11  \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
```

---

```
12 \IT@maybe@returnmessage% v0.2          lwarp
13 }
```

---

File 233 **lwarp-intopdf.sty**

§ 342 Package **intopdf**

Pkg intopdf

intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]
2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3   \LWR@href{#2}{#5}%
4 }
```

---


File 234 **lwarp-isomath.sty**

§ 343 Package **isomath**

Pkg isomath

*(Emulates or patches code by GÜNTER MILDE.)*

isomath is used as-is for SVG math, and emulated for MATHJAX.

 **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
6 \CustomizeMathJax{\let\vectorsym\mathbfit}
7 \CustomizeMathJax{\let\matrixsym\mathbfit}
8 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
9 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
10 \CustomizeMathJax{\let\mathbold\mathbfit}
11 \CustomizeMathJax{\let\mathsans\mathrm}% not sans
12 \end{warpMathJax}
```

---

File 235 **lwarp-isotope.sty**

§ 344 Package **isotope**

Pkg isotope

*(Emulates or patches code by HEIKO BAUKE.)*

isotope is patched for use by lwarp with SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]
```

```

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3   \renewcommand{\isotope@atomicnumber}{#1}%
4   \edef\LWR@isotope@alttag{%
5     \textbackslash{
6     \textbackslash{isotope
7     [\isotope@nucleonnumber]%
8     [\isotope@atomicnumber]%
9     \{#2\}
10    \textbackslash}%
11  }%
12 \ifbool{mathjax}%
13   {\LWR@isotope@alttag}%
14   {% SVG
15     \m@th%
16     \LWR@subsingledollar*%
17     {% alt tag
18       \LWR@isotope@alttag%
19     }%
20     {isotope}% add'l hashing
21     {% contents
22       \settowidth\@tempdimb{%
23         \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24       }%
25       \settowidth\@tempdimc{%
26         \ensuremath{\scriptstyle\isotope@atomicnumber}%
27       }%
28       \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29       \ensuremath{
30         {%
31           ^{\makebox[\@tempdimb][r]{%
32             \ensuremath{%
33               \scriptstyle\isotope@nucleonnumber%
34             }% ensuremath
35           }}%
36         _{\makebox[\@tempdimb][r]{%
37           \ensuremath{%
38             \scriptstyle\isotope@atomicnumber%
39           }% ensuremath
40         }}%
41         \isotopestyle{#2}%
42       }% ensuremath
43     }% contents
44   }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51   \newcommand{\LWRisotopetwo}[2][]{%
52     {%
53       \vphantom{\mathrm{#2}}%
54       }^{\LWRisotopenucleonnumber}_{#1}%
55       \mathrm{#2}%
56     }%
57   }%
58 }
59
60 \CustomizeMathJax{%
61   \newcommand{\isotope}[1][]{%

```

```

62     \def\LWRisotopenucleonnumber{#1}%
63     \LWRisotopetwo%
64   }%
65 }
66 \end{warpMathJax}

```

File 236 **lwarp-jurabib.sty**

§ 345 Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

Pkg jurabib

jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*{\jb@biblaw@item}{%
7   \hspace{0.5em}%
8   $\triangleright$
9   \HTMLunicode{25B7}%   lwarp%
10  \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14   \ifjbweereinbib
15     \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16     \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17   \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
18     #1\ifjb@dot\unskip\unskip\unskip.\fi
19     &
20     \quad%   lwarp
21     \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
22   \end{tabular}
23   \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28   {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}
29   {}
30   {}
31   {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34   {\multicolumn{2}{p{\columnwidth}}{\jb@ename}}
35   {\jb@ename}
36   {}
37   {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40   {\jb@biblaw@item & \jb@fulltitle}
41   {\jb@biblaw@item \quad \jb@fulltitle}
42   {}

```

```

43   {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46   {\end{tabular}}
47   {}
48   {}
49   {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52   {\begin{minipage}[t]{\bibnumberwidth}}
53   {}
54   {}
55   {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58   {\end{minipage}}
59   {\quad}
60   {}
61   {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 237 **lwarp-karnaugh-map.sty**

§ 346 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

Pkg karnaugh-map

karnaugh-map is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because `lwarp` changes the definition of `\&`, and the original uses `\ifnum` to compare `0` with `\&`. It is hard to patch this environment, so the entire thing is redefined here, with the `lwarp` modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{${X_1X_0$} O{${X_3X_2$} O{${X_5X_4$}} }{%
3   \begingroup
4     % store map size {[START]
5     \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
6     \renewcommand{\@karnaughmap@var@mapsize@}{#3}%
7     \renewcommand{\@karnaughmap@var@mapsize@}{#4}%
8     % [END]}
9     % determinate if markings should be color or black and white
10    \IfBooleanTF{#1}{%
11      % should be black and white
12      \renewcommand{\@karnaughmap@var@bw@}{1}%
13    }{%
14      % should be color
15      \renewcommand{\@karnaughmap@var@bw@}{0}%
16    }%
17    %
18    % find matching matrix template and alignment parameters {[START]
19    \newcommand{\@karnaughmap@local@matrixtemplate@}{0}' is considered as missing matrix template
20    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22    \ifnum\@karnaughmap@var@mapsize@\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsize@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%

```

```

24          \&                0 \&                1 \& \phantom{0} \&
25          0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&        \&
26          1 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&        \&
27          \phantom{0} \&                \&                \&                \&
28          }%
29          \fi
30          \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=241
31          \renewcommand{\@karnaughmap@local@matrixtemplate}{%
32          \&                0 \&                1 \& \phantom{0} \&
33          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&        \&
34          01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&        \&
35          11 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&        \&
36          10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&        \&
37          \phantom{0} \&                \&                \&                \&
38          }%
39          \fi
40          \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=421
41          \renewcommand{\@karnaughmap@local@matrixtemplate}{%
42          \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
43          0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \& |(000010)|
44          1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \& |(000110)|
45          \phantom{0} \&                \&                \&                \&                \&
46          }%
47          \fi
48          \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=441
49          \renewcommand{\@karnaughmap@local@matrixtemplate}{%
50          \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
51          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \& |(000010)|
52          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \& |(000110)|
53          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \phantom{0} \& |(001110)|
54          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \& |(001010)|
55          \phantom{0} \&                \&                \&                \&                \&
56          }%
57          \fi
58          \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=442
59          \renewcommand{\@karnaughmap@local@matrixtemplate}{%
60          \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
61          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \& |(000010)|
62          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \& |(000110)|
63          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \phantom{0} \& |(001110)|
64          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \& |(001010)|
65          \phantom{0} \&                \&                \&                \&                \&
66          }%
67          \renewcommand{\@karnaughmap@local@maprealignmentx}{2.5}%
68          \fi
69          \ifnum\@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@ \@karnaughmap@var@mapsize@=444
70          \renewcommand{\@karnaughmap@local@matrixtemplate}{%
71          \&                00 \&                01 \&                11 \&                10 \& \phantom{0} \&
72          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \phantom{0} \& |(000010)|
73          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \phantom{0} \& |(000110)|
74          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \phantom{0} \& |(001110)|
75          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \phantom{0} \& |(001010)|
76          \phantom{0} \&                \&                \&                \&                \&
77          00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(100010)| \phantom{0} \& |(100010)|
78          01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(100110)| \phantom{0} \& |(100110)|
79          11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(101110)| \phantom{0} \& |(101110)|
80          10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)| \phantom{0} \& |(101010)|
81          \phantom{0} \&                \&                \&                \&                \&
82          }%
83          \renewcommand{\@karnaughmap@local@maprealignmentx}{2.5}%

```

```

84     \renewcommand{\@karnaughmap@local@maprealignments@}{-2.5}%
85     \fi
86     % [END]}
87 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89%     \ifnum0=\@karnaughmap@local@matrixtemplate@% original
90     % print error if no template could be found
91     \PackageError{lwarp-karnaugh-map}{%
92     Can not find a template fitting your specification
93     (\@karnaughmap@var@mapsizex@\space x \@karnaughmap@var@mapsizex@\space x
94     \@karnaughmap@var@mapsizex@)%
95     }{%
96     Existing templates have the following dimensions:
97     2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98     }%
99%     \fi original
100 }{\relax}% lwarp
101 \begin{tikzpicture}
102     % grid
103     % for all dimensions
104     \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizex@);
105     % when there are 2 sub maps
106     \ifnum\@karnaughmap@var@mapsizex@=2
107         \draw[color=black, ultra thin] (5,0) grid (9,4);
108     \fi
109     % when there are 4 sub maps
110     \ifnum\@karnaughmap@var@mapsizex@=4
111         \draw[color=black, ultra thin] (5,0) grid (9,4);
112         \draw[color=black, ultra thin] (0,-5) grid (4,-1);
113         \draw[color=black, ultra thin] (5,-5) grid (9,-1);
114     \fi
115     % labels
116     % for all dimensions
117     \node[above] at (\@karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizex@*0.9) {\small{#5}};
118     \node[left] at (-0.9,\@karnaughmap@var@mapsizex@*0.5) {\small{#6}};
119     % when there are 2 sub maps
120     \ifnum\@karnaughmap@var@mapsizex@=2
121         \node[above] at (7,4.9) {\small{#5}};
122         % extra sub maps labels
123         \node[below] at (2,-0.1) {\small{#7$=0$}};
124         \node[below] at (7,-0.1) {\small{#7$=1$}};
125     \fi
126     % when there are 4 sub maps
127     \ifnum\@karnaughmap@var@mapsizex@=4
128         \node[above] at (7,4.9) {\small{#5}};
129         \node[left] at (-0.9,-3) {\small{#6}};
130         % extra sub maps labels
131         \node[below] at (2,-0.1) {\small{#7$=00$}};
132         \node[below] at (7,-0.1) {\small{#7$=01$}};
133         \node[below] at (2,-5.1) {\small{#7$=10$}};
134         \node[below] at (7,-5.1) {\small{#7$=11$}};
135     \fi
136     % data
137     \matrix[
138     matrix of nodes,
139     ampersand replacement=\&,
140     column sep={1cm,between origins},
141     row sep={1cm,between origins},
142 ] at (\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignments@,\@karnaughmap@var@mapsizex@*\@karnaughmap@local@matrixtemplate@%
143 
```



```

144     };
145 }{
146   \end{tikzpicture}
147 \endgroup
148 }

```


File 238 **lwarp-keyfloat.sty**

§ 347 Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg keyfloat

keyfloat is supported with a considerable amount of hacking. (It's a mashup of lwarp, keyfloat, and tocdata.)

 **keywrap** If placing a `\keyfig[H]` inside a keywrap, use an absolute width for `\keyfig`, instead of lw-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the lw option.)

For wrapped figures, overhang and number of lines are ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4   \PackageError{lwarp-keyfloat}
5     {%
6       The keyfloat package is out of date.\MessageBreak
7       Update to keyfloat v2.01 2019/09/23 or later%
8     }
9     {%
10      Please update the keyfloat package.  It's worth it!%
11    }
12 }

```

After keyfloat has loaded:

```

13 \AtBeginDocument{

```

Hook [keyfloat] Integration for keyfloat.

`\KFLT@LWR@hook@boxouter`

```

14 \providecommand*{\KFLT@LWR@hook@boxouter}{}
15
16 \renewcommand*{\KFLT@LWR@hook@boxouter}{%
17   \ifbool{KFLT@keywrap}{%
18     }{%
19       \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20         \setlength{\linewidth}{6in}%
21         \setlength{\textwidth}{6in}%
22         \setlength{\textheight}{9in}%
23       }{%
24     }%
25   \normalcolor%
26 }

```

Hook [keyfloat] Integration for keyfloat.

`\KFLT@LWR@hook@keysubfloats`

```
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@keyfloatsminipage
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

Hook [keyfloat] Integration for keyfloat.

```
\KFLT@LWR@hook@keyfloats
31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*{\KFLT@maybeendfloatrow}{%
34   \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
35     {}% thiscol < numcols
36     {% >=
37       \defcounter{KFLT@thiscol}{0}%
38     }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}%
42 {%
```

If are nested inside a keyfloats or a subfloat:

```
43   \ifboolexpr{%
44     test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45     bool{KFLT@inkeysubfloats}%
46   }%
47   {% nested
```

Tracks row start and end:

```
48   \KFLT@maybestartfloatrow%
```

Possibly fill space between columns:

```
49   \ifnumgreater{\value{KFLT@thiscol}}{1}%
50   {%
51 %     \hfill%
52   }%
53   {}%
54 }% nested
55 {}% not nested
56 }
```

```
57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}}{}%
62   {%
```

```
63   \ifdimgreater{\KFLT@h}{0pt}%
64   {%
65     \KFLT@frame{%
66       \includegraphics%
```

```

67         [%
68         scale=\KFLT@s,%
69         width=\KFLT@imagewidth,%
70         height=\KFLT@h,%
71         \KFLT@keepaspectratio,%
72         ]{#1}%
73     }%
74 }%
75 {%
76     \KFLT@frame{\includegraphics%
77     [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
78 }%
79 }%
80 {% not linewidth
81     \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
82     {% width is given
83         \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
84         {% w and h
85             \KFLT@frame{\includegraphics[%
86             scale=\KFLT@s,%
87             width=\KFLT@imagewidth,%
88             height=\KFLT@h,%
89             \KFLT@keepaspectratio,%
90             ]{#1}}%
91         }% w and h
92         {% only w
93             \KFLT@frame{\includegraphics%
94             [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
95         }% only w
96     }% width is given
97     {% width is not given
98         \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
99         {%
100             \KFLT@frame{\includegraphics%
101             [scale=\KFLT@s,height=\KFLT@h]{#1}}%
102         }%
103         {%
104             \KFLT@frame{\includegraphics%
105             [scale=\KFLT@s]{#1}}%
106         }%
107     }% width is not given
108 }% not linewidth
109 % \end{lrbox}%
110 % \unskip%
111 % \KFLT@findenvboxwidth%
112 % \begin{turn}{\KFLT@r}%
113 % \KFLT@frame{\usebox{\KFLT@envbox}}%
114 % \unskip%
115 % \end{turn}%
116 % \LWR@traceinfo{KFLT@onefigureimage: done}%
117 }

118 \RenewDocumentEnvironment{KFLT@boxinner}{}
119 {%
120     \LWR@traceinfo{KFLT@boxinner}%
121     \LWR@stoppars%
122     \minipagefullwidth%
123     \ifbool{bool{KFLT@ft} or bool{KFLT@ef}}{%
124         \fminipage{\KFLT@imagewidth}%
125     }{%

```

```

126     \minipage{\KFLT@imagewidth}%
127   }%
128 }
129 {%
130   \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
131     \endfminipage%
132   }{%
133     \endminipage%
134   }%
135   \LWR@startpars%
136   \LWR@traceinfo{KFLT@boxinner: done}%
137 }

138 \newcommand*\LWR@KFLT@settetalign}[1]{%
139   \def\LWR@KFLT@textalign{justify}%
140   \ifcsstring{KFLT@#1textalign}{\centering}%
141     {\def\LWR@KFLT@textalign{center}}%
142   }%
143   \ifcsstring{KFLT@#1textalign}{\raggedleft}%
144     {\def\LWR@KFLT@textalign{right}}%
145   }%
146   \ifcsstring{KFLT@#1textalign}{\raggedright}%
147     {\def\LWR@KFLT@textalign{left}}%
148   }%
149 }
150
151 \renewcommand{\KFLT@addtext}[1]
152 {%

```

Is there text to add?

```

153   \ifcempty{KFLT@#1t}%
154   }% no text
155   {% text to add
156     {% local

```

Add some space, then create a <div> to contain the text:

```

157     \addvspace{\smallskipamount}%
158     \LWR@KFLT@settetalign{#1}%
159     \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

160 %     \csuse{KFLT@#1textalign}%
161 %     \footnotesize%
162     \setlength{\parskip}{1.5ex}%
163     \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

164     \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

165     \end{BlockClass}%
166 %     \par\addvspace{2ex}%
167     }% local

```

```

168   }% text to add
169 }
170
171 \IfPackageLoadedTF{tocdata}
172 {}
173 {% tocdata not loaded
174
175   \newcommand*{\LWR@KFLT@setnamealign}[1]{%
176     \def\LWR@KFLT@textalign{justify}%
177     \ifstrequal{#1}{\centering}%
178       {\def\LWR@KFLT@textalign{center}}%
179       {}%
180     \ifstrequal{#1}{\raggedleft}%
181       {\def\LWR@KFLT@textalign{right}}%
182       {}%
183     \ifstrequal{#1}{\raggedright}%
184       {\def\LWR@KFLT@textalign{left}}%
185       {}%
186   }
187
188   \renewcommand*{\KFLT@@addartisttext}[3]{%
189

```

Add space and create the name inside a <div>:

```

190 %       \addvspace{\medskipamount}%
191 %       \begin{minipage}{\linewidth}%
192         \LWR@KFLT@setnamealign{#3}%
193         \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
194

```

Text alignment is #3, and depends on artist or author:

```

195 %       #3%
196

```

#1 is empty or 'subgrp'

#2 is empty for artist, 'u' for author:

```

197         \footnotesize\textsc{%
198           \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
199           \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
200           \csuse{KFLT@#1a#2l}%
201           \csuse{KFLT@#1a#2s}%
202         }%
203 %       \end{minipage}%
204         \end{BlockClass}
205 %       \par\addvspace{2ex}%
206     }
207
208 }% tocdata not loaded

```

Env KFLT@marginfloat

[<offset>] {<type>}

```

209 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
210 {%
211   \uselengthunit{PT}%
212   \LWR@BlockClassWP%
213   {float:right; width:2in; margin:10pt}%

```

```

214     {}%
215     (note)%
216     {marginblock}%
217     \renewcommand*{\@capttype}{#2}%
218     \minipage{1.2\LWR@usersmarginparwidth}%
219     \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
220 }
221 {%
222     \endminipage%
223     \endLWR@BlockClassWP%
224 }

225 \DeclareDocumentEnvironment{marginfigure}{o}
226   {\begin{KFLT@marginfloat}{figure}}
227   {\end{KFLT@marginfloat}}
228
229 \DeclareDocumentEnvironment{margintable}{o}
230   {\begin{KFLT@marginfloat}{table}}
231   {\end{KFLT@marginfloat}}

```

Env keywrap

```

    {\width} {\keyfloat}

232 \DeclareDocumentEnvironment{keywrap}{m +m}
233 {%
234     \begin{LWR@setvirtualpage}*
235     \setlength{\LWR@templengthone}{#1}%
236     \begin{LWR@BlockClassWP}%
237         {%
238             float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
239             margin:10pt%
240         }%
241     }%
242     (note)%
243     {marginblock}%
244     \setlength{\linewidth}{.95\LWR@templengthone}%
245     \booltrue{KFLT@keywrap}%
246     #2%
247     \end{LWR@BlockClassWP}%
248     \end{LWR@setvirtualpage}%
249 }
250 {}

251 }% AtBeginDocument

```

File 239 **lwarp-keystroke.sty**§ 348 Package **keystroke***(Emulates or patches code by WERNER FINK.)*

Pkg keystroke

keystroke is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3   \InlineClass{keystroke}{#1}

```

```

4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*\LWR@HTML@BSpace{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*\LWR@HTML@Tab{\keystroke{| \HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*\LWR@HTML@UArrow{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*\LWR@HTML@DArrow{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*\LWR@HTML@LArrow{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*\LWR@HTML@RArrow{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro\LWR@HTML@Shift\Shift
31 \xpatchcmd{\LWR@HTML@Shift}
32   {\$ \uparrow$}
33   {\HTMLUnicode{21D1}}
34   {}
35   {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro\LWR@HTML@PgUp\PgUp
39 \xpatchcmd{\LWR@HTML@PgUp}
40   {\$ \uparrow$}
41   {\HTMLUnicode{2191}}
42   {}
43   {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro\LWR@HTML@PgDown\PgDown
47 \xpatchcmd{\LWR@HTML@PgDown}
48   {\$ \downarrow$}
49   {\HTMLUnicode{2193}}
50   {}
51   {}
52 \LWR@formatted{PgDown}

```

---


File 240 **lwarp-kpfonts.sty**

§ 349 Package **kpfonts**

*(Emulates or patches code by CHRISTOPHE CAIGNAERT.)*

Pkg kpfonts

kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalasscript`.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13   \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14   \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15   \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19   \LWR@mathjax@addgreek@l@up*{}{}
20   \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22   \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26   \LWR@mathjax@addgreek@u@it*{}{}
27   \LWR@mathjax@addgreek@u@up*{other}{}
28   \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30   \LWR@mathjax@addgreek@u@it*{other}{}
31   \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up*{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it*{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50   \ifkp@upRm%
51     \CustomizeMathJax{
52       \def\D#1{\mathclose{\, \mathrm{d}}#1}

```



```

53     }
54   \else
55     \CustomizeMathJax{
56       \def\D#1{\mathclose{\,\mathit{d}}#1}
57     }
58   \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```


File 241 **lwarp-kpfonts-otf.sty**

§ 350 Package **kpfonts-otf**

*(Emulates or patches code by DANIEL FLIPO.)*


Pkg kpfonts-otf

kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14   \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18   \LWR@mathjax@addgreek@l@up{}{}
19   \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm

```

```

23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30   \def\D#1{\mathclose{\, \mathrm{d}}#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{%
41   \mathop{\unicode{x2939}}\!\!\!\unicode{x0222E}}%
42 }}
43
44 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
45   \mathop{\unicode{x0222F}}\!\!\!\unicode{x2938}}%
46 }}
47
48 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
49   \mathop{\unicode{x2939}}\!\!\!\unicode{x0222F}}%
50 }}
51
52 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
53   \mathop{\unicode{x0222F}}\!\!\!\unicode{x2938}}%
54 }}
55
56 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
57   \mathop{\unicode{x2939}}\!\!\!\unicode{x0222F}}%
58 }}
59
60 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
61   \mathop{\unicode{x02230}}\!\!\!\unicode{x2938}}%
62 }}
63
64 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
65   \mathop{\unicode{x2939}}\!\!\!\unicode{x02230}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69   \mathop{\unicode{x02230}}\!\!\!\unicode{x2938}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
73   \mathop{\unicode{x2939}}\!\!\!\unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77   \mathop{\unicode{x2A16}}\!\!\!\unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiiint}{%
81   \mathop{\unicode{x2A16}}\!\!\!\unicode{x2A16}}\!\!\!\unicode{x2A16}}%
82 }}

```

---

```

83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}
87
88 \end{warpMathJax}

```

---

File 242 **lwarp-layaureo.sty**

§ 351 Package **layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 243 **lwarp-layout.sty**

§ 352 Package **layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

```
1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]
```

```
2 \NewDocumentCommand{\layout}{s}{}

```

---

File 244 **lwarp-layouts.sty**

§ 353 Package **layouts**

Pkg layouts layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse

```

```
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterfont}[1]{}
24 \newcommand{\setvaluetextsize}[1]{}
25 \newcommand{\setlayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\tryparttopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
```

```
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawaspread}[8][0]{(a spread)}
```

---

```
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}
```

---

File 245 **lwarp-leading.sty**

§ 354 Package **leading**

Pkg leading

leading is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]
2 \newcommand\leading[1]{}
```

---

File 246 **lwarp-leftidx.sty**

§ 355 Package **leftidx**

Pkg leftidx

*(Emulates or patches code by HARALD HARDERS.)*

leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{\!#1}}}
5 \end{warpMathJax}
```

---

File 247 **lwarp-letterspace.sty**

§ 356 Package **letterspace**

Pkg letterspace

*(Emulates or patches code by R SCHLICHT.)*

letterspace is a subset of microtype, which is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-letterspace:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]
2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][1]{}
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}
```

---

File 248 **lwarp-lettrine.sty**

§ 357 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg Lettrine

lettrine is emulated.

**for HTML output:**

Discard all options for lwarp-lettrine:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [<keys>] {<letter>} {<additional text>}`

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3   \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{0}
11 \newcommand*\DefaultLraise{0}
12 \newcommand*\DefaultLhang{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}
```

File 249 **lwarp-libertinust1math.sty**

§ 358

Package

**libertinust1math***(Emulates or patches code by MICHAEL SHARPE.)*

Pkg Libertinust1math

libertinust1math is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9   \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11   \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \iflibus@frenchm
19   \LWR@mathjax@addgreek@l@up{}{}
20 \else
21   \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\upartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 %   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 %   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.



```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intsl\int}
71 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\oint\oint}
75 \CustomizeMathJax{\newcommand{\ointsl}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intup\int}
79 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointup\oint}
83 \CustomizeMathJax{\newcommand{\ointup}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\int\int}
93 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\oint\oint}
97 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}

```

```

111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\bracedl}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smlkcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleaderwtdots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}

```

```

171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}

```

```

231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rso lbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsuccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubseteq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupseteq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedg eq}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equip}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x000B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x000A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x000B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}

```

```

291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsime}
324 \CustomizeMathJax{\let\nle\leq}
325 \CustomizeMathJax{\let\nge\geq}
326
327 \end{warpMathJax}

```

---

File 250 **lwarp-lineno.sty**

§ 359 Package **lineno**

*(Emulates or patches code by STEPHAN I. BÖTTCHER.)*

Pkg `lineno`

`lineno` is partly emulated, but mostly ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{
3
4 \def\linenumbers{%
5   \@ifnextchar[\resetlinenumber]{%
6     {\@ifstar{\resetlinenumber}}{}}%
7   }
8
9 \newcommand*\nolinenumbers{}
10

```

```

11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63   (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers

```

```

71  {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote}      {\quote}{\endquote}
98 \newenvironment{numquotation}  {\quotation}{\endquotation}
99 \newenvironment{numquote*}     {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110   \LWR@forceminwidth{\bframerule}%
111   \BlockClass[
112     border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113     padding:\LWR@printlength{\bframesep}%
114   ]{bframe}
115 }
116 {\endBlockClass}

```

---

File 251 **lwarp-lips.sty**

§ 360 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

lips is emulated.

```

1% \LWR@ProvidesPackageDrop{lips}
2\PackageInfo{lwarp}{Using the lwarp version of package ‘lips’.%}

```

---

```

3 \ProvidesPackage{lwarp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}

```

---

File 252 **lwarp-lipsum.sty**

§ 361 Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg lipsum

lipsum is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]
2
3 \SetLipsumParListItemEnd{%
4   \LWR@closeparagraph%
5
6   \leavevmode\LWR@orignewline%
7 }

```

---

File 253 **lwarp-listings.sty**

§ 362 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg listings

listings is supported with some limitations. Text formatting and escape characters are not yet supported.

```

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```

2 \lst@column@flexible

```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init

```



```

4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlst@EveryPar\lst@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}

```

\lstset

*{<options>}*Use the listings `literate` option to replace HTML entities:

```

9 \def\lstset#1{\endgroup%
10% \ifx\@empty#1%
11%     \@empty%
12% \else%
13     \setkeys{lst}{%
14         #1%
15         ,literate=%
16         {<}\HTMLentity{lt}}{4}%
17         {>}\HTMLentity{gt}}{4}%
18         {'}\HTMLentity{apos}}{6}%
19         {'}\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;`; elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```

20     }%
21% \fi%
22}

```

\lst@Init

*{<backslash-processing>}* Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
24 \LWR@traceinfo{\lst@Init}%
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle%         lwarp
26 \LWR@forcenewpage%         lwarp
27 \fi%                         lwarp

```

Escapes do not work yet, and are disabled:

```

28 \let\lst@ifmathescape\iffalse%         lwarp
29 \let\lst@DefEsc\relax%                 lwarp
30 \def\lst@escapebegin{}%                 lwarp
31 \def\lst@escapeend{}%                   lwarp

32 \renewcommand*{\@capttype}{\lstlisting}%         lwarp
33 \let\lst@aboveskip\z@\let\lst@belowskip\z@%     lwarp
34 \gdef\lst@boxpos{t}%                         lwarp
35 \let\lst@frame\@empty%                       lwarp
36 \let\lst@frametshape\@empty%                 lwarp
37 \let\lst@framershape\@empty%                 lwarp
38 \let\lst@framebshape\@empty%                 lwarp
39 \let\lst@framefshape\@empty%                 lwarp
40 \lstframe@\lst@frameround ffff\relax%         lwarp
41 \lst@multicols\@empty%                       lwarp
42 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

43         \hbadness=10000\relax%
44     \ifx\lst@float\relax\else%
45         \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]}%
46         \expandafter\@tempa%
47     \fi%
48     \ifx\lst@multicols\empty\else%
49         \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
50         \expandafter\lst@next%
51     \fi%
52     \ifhmode\ifinner \lst@boxtrue \fi\fi%
53     \lst@ifbox%
54         \lsthk@BoxUnsafe%
55         \hbox to\z@\bgroup%
56             $\if t\lst@boxpos \vtop%
57             \else \if b\lst@boxpos \vbox%
58             \else \vcenter \fi\fi%
59         \bgroup \par\noindent%
60     \else%
61         \lst@ifdisplaystyle%
62             \lst@EveryDisplay%
63             \par\penalty-50\relax%
64             \vspace\lst@aboveskip%
65         \fi%
66     \fi%
67     \normalbaselines%
68     \abovecaptionskip\lst@abovecaption\relax%
69     \belowcaptionskip\lst@belowcaption\relax%
70     \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

71 \LWR@traceinfo{\lst@Init: defining current label !\@currentlabel!}%
72     \let\LWR@listings@currentlabel\@currentlabel%          lwarp
73 \LWR@traceinfo{\lst@Init: defining current label !\cref@currentlabel!}%
74     \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

75 \LWR@traceinfo{\lst@Init: preinit and init}%
76     \lsthk@PreInit \lsthk@Init%

77     \let\@currentlabel\LWR@listings@currentlabel%          lwarp
78     \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

79 \LWR@traceinfo{\lst@Init: M}%
80     \lst@ifdisplaystyle
81         \global\let\lst@ltxlabel\@empty
82         \if@inlabel
83             \lst@ifresetmargins
84                 \leavevmode
85             \else
86                 \xdef\lst@ltxlabel{\the\everypar}%
87                 \lst@AddTo\lst@ltxlabel{%
88                     \global\let\lst@ltxlabel\@empty
89                     \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
90             \fi
91         \fi
92         \everypar\expandafter{\lst@ltxlabel
93                     \lsthk@EveryLine\lsthk@EveryPar}%
94     \else
95         \everypar{}
96         \let\lst@NewLine\@empty

```

```

97  \fi
98 \LWR@traceinfo{lst@Init: P}%
99  \lsthk@InitVars \lsthk@InitVarsBOL
100 \lst@Let{13}\lst@MProcessListing
101 \let\lst@Backslash#1%
102 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
103 \lst@InitFinalize%
104 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

105 \def\lst@frameLr{}%      lwarp
106 \LWR@traceinfo{lst@Init: finished origlst@Init}%
107 \lst@ifdisplaystyle%    lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

108 \LWR@traceinfo{lst@Init: About to create verbatim.}% lwarp
109 \let\lsthk@EveryPar\relax%      lwarp
110 \LWR@atbeginverbatim{programlisting}% lwarp
111
112 \let\lsthk@EveryPar\LWR@origlsthkEveryPar% lwarp
113 \else%                          lwarp

```

Inline, so open a <span>:

```

114 \ifbool{LWR@verbtags}{\LWR@htmltag%      lwarp
115   span class=\textquotedbl{}inlineprogramlisting\textquotedbl% lwarp
116 }}{}%      lwarp
117 \fi%      lwarp
118 \LWR@traceinfo{lst@Init: done}%
119 }

```

\lst@DeInit

Done at the end of a listing.

```

120 \renewcommand*\lst@DeInit{}%
121 \LWR@traceinfo{lst@DeInit}%
122 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```

123 \let\lsthk@EveryPar\relax%
124 \LWR@afterendverbatim%
125 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
126 \else%

```

Inline, so create the closing </span>:

```

127 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
128 \fi%

```

Final listings deinit:

```

129 \lst@XPrintToken \lst@EOLUpdate
130 \global\advance\lst@newlines\m@ne
131 \lst@ifshowlines
132   \lst@DoNewLines
133 \else
134   \setbox\@tempboxa\vbox{\lst@DoNewLines}%
135 \fi

```

```

136 \lst@ifdisplaystyle \par\removelastskip \fi
137 \lsthk@ExitVars\everypar{}\lsthk@DeInit\normalbaselines\normalcolor
138 \lst@MakeCaption b%
139 \lst@ifbox
140     \egroup $\hss \egroup
141     \vrule\@width\lst@maxwidth\@height\z@\@depth\z@
142 \else
143     \lst@ifdisplaystyle
144         \par\penalty-50\vspace\lst@belowskip
145     \fi
146 \fi
147 \ifx\lst@multicols\@empty\else
148     \def\lst@next{\global\let\@checkend\@gobble
149                 \endmulticols
150                 \global\let\@checkend\lst@@checkend}
151     \expandafter\lst@next
152 \fi
153 \ifx\lst@float\relax\else
154     \expandafter\lst@endfloat
155 \fi
156 \endgroup
157 \LWR@traceinfo{\lst@DeInit done}%
158 }

```

\lst@MakeCaption

{*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```

159 \def\lst@MakeCaption#1{%
160 \LWR@traceinfo{\lst@MakeCaption at #1}%
161 \lst@ifdisplaystyle
162 \LWR@traceinfo{\lst@MakeCaption: making a listings display caption}%
163 \ifx #1t%
164     \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
165         \expandafter\refstepcounter
166     \fi {\lstlisting}%
167 % \LWR@traceinfo{About to assign label: !\lst@label!}%
168 %     \ifx\lst@label\@empty\else
169 % \label{\lst@label}\fi
170 % \LWR@traceinfo{Finished assigning the label.}%
171     \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
172     \global\let\lst@name\lst@arg \global\let\lst@name\lst@name
173     \lst@ifnolol\else
174         \ifx\lst@caption\@empty
175             \ifx\lst@caption\@empty
176                 \ifx\lst@intname\@empty
177                     \else
178                         \def\lst@temp{ }%
179                     \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```

180 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
181 %     \addcontentsline{lol}{\lstlisting}{\lst@name}
182 %     \fi
183 % \fi
184 % \fi
185 \else

```

This would have to be modified for lwarp:

```

186 \LWR@traceinfo{lst@MakeCaption: addcontents lst@caption: -\lst@caption-}%
187         \addcontentsline{lol}{lstlisting}%
188 {\protect\numberline{\thelstlisting}%
189 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
190         \fi
191     \fi
192 \fi
193 \ifx\lst@caption\empty\else
194 \LWR@traceinfo{lst@MakeCaption: lst@caption not empty-}%
195     \lst@ifsubstring #1\lst@captionpos
196     {\begingroup
197 \LWR@traceinfo{lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

198 %             \let\@vskip\vskip
199 %             \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
200 %             \def\lst@vskip{\nobreak\@vskip\@tempskipa\nobreak}%
201 %             \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
202 %             \ifx #1t\allowbreak \fi
203             \ifx\lst@title\empty

```

New lwarp code to create a caption:

```

204             \LWR@stoppars%         lwarp
205             \lst@makecaption\fnnum@lstlisting{\ignorespaces \lst@caption}
206             \else

```

New lwarp code to create a title:

```

207 %             \lst@maketitle\lst@title % (AS)
208 \LWR@traceinfo{lst@MakeCaption: Making title: \lst@title}%
209 \begin{BlockClass}{lstlistingtitle}%         lwarp
210 \lst@maketitle\lst@title%                     lwarp
211 \end{BlockClass}%                             lwarp
212         \fi%
213 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
214     \ifx\lst@label\empty\else%
215 \leavevmode% gets rid of bad space factor error
216 \GetTitleStringExpand{\lst@caption}%
217 \edef\LWR@lntemp{\GetTitleStringResult}%
218 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
219 \label{\lst@label}\fi%
220 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}%

```

Not needed for lwarp:

```

221 %             \ifx #1b\allowbreak \fi
222             \endgroup}{}%
223     \fi
224 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
225 \else
226 \LWR@traceinfo{lst@MakeCaption: INLINE}%
227 \fi
228 \LWR@traceinfo{lst@MakeCaption: done at #1}%
229 }
230
231 \renewcommand{\lst@maketitle}[1]{%
232     \LWR@isolate{#1}%
233 }%
234

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```
235 \lst@Key{numbers}{none}{%
236   \let\lst@PlaceNumber\@empty
237   \lstKV@SwitchCases{#1}%
238   {none:\%
239     left:\def\lst@PlaceNumber{%
```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```
240 %       \LWR@origllap{
241         \LWR@orignormalfont%
242         \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
243 %       }
244   }\\%
245   right:\def\lst@PlaceNumber{\LWR@origrllap{\LWR@orignormalfont
246         \kern 6in \kern\lst@numbersep
247         \lst@numberstyle{\the\lstnumber}}}%
248   }{\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}}
```

---

File 254 **lwarp-listliketab.sty**

§ 363 Package **listliketab**

Pkg listliketab

listliketab is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]
2 \newcommand*\storestyleof}[1]{}
3 \newcommand*\storeliststyle{}
4 \newenvironment{listliketab}{}{}
```

---

File 255 **lwarp-lltjext.sty**

§ 364 Package **lltjext**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

Pkg lltjext

lltjext is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]
2 \protected\def\yoko{%
3   \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
```

```

11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26   {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

---

File 256 **lwarp-lltjp-siunitx.sty**

§ 365 Package **lltjp-siunitx**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)

Pkg lltjp-siunitx **lltjp-siunitx** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjp-siunitx}% 2021-10-31, no date assigned in file

This is the siunitx v3 file, as patched by lltjp-siunitx.

```

2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \siunitx_print_text:n #1
5 {
6   \text
7   {
8     \ltj@allalchar % <--- LuaTeX-ja
9     \bool_if:NT \l__siunitx_print_text_family_bool
10    { \fontfamily { \familydefault } }
11    \bool_if:NT \l__siunitx_print_text_series_bool
12    { \fontseries { \seriesdefault } }
13    \bool_if:NT \l__siunitx_print_text_shape_bool
14    { \fontshape { \shapedefault } }
15    \bool_lazy_any:nT
16    {

```

```

17         { \l__siunitx_print_text_family_bool }
18         { \l__siunitx_print_text_series_bool }
19         { \l__siunitx_print_text_shape_bool }
20     }
21     { \selectfont }
22     \tl_use:N \l__siunitx_print_text_font_tl
23     \exp_args:NnV \tl_if_head_eq_meaning:nNTF {#1} \l_siunitx_unit_fraction_tl
24     {
25         \__siunitx_print_text_fraction:Nnn #1
26     }
27     {
28         \__siunitx_print_text_replace:n {#1}
29     }
30 }
31 }
32
33 \ExplSyntaxOff

```

---

File 257 **lwarp-lltjp-tascmac.sty**

§ 366 Package **lltjp-tascmac**

Pkg lltjp-tascmac lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 258 **lwarp-longtable.sty**

§ 367 Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg longtable longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```



⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **`lateximage`** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [`<horizontalignment>`] [`<colspec>`] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][]{%
5   \LWR@floatbegin{table}%
6   \ifdef{\setcaptiontype}{% caption package:
7     \setcaptiontype{\LTcaptiontype}%
8     \caption@setoptions{longtable}%
9     \caption@setoptions{@longtable}%
10    \caption@LT@setup%
11  }{% w/o caption package:
12    \renewcommand*{\@captiontype}{\LTcaptiontype}%
13  }%
14  \booltrue{LWR@starredlongtable}%
15  \boolfalse{LWR@longtable@havehead}%
16  \let\captionlistentry\LWR@LTcaptionlistentry%
17  \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22   \LWR@floatbegin{table}%
23   \ifdef{\setcaptiontype}{% caption package:
24     \setcaptiontype{\LTcaptiontype}%
25     \caption@setoptions{longtable}%
26     \caption@setoptions{@longtable}%
27     \caption@LT@setup%
28  }{% w/o caption package:
29     \renewcommand*{\@captiontype}{\LTcaptiontype}%
30  }%
31  \refstepcounter{\LTcaptiontype}%
32  \boolfalse{LWR@longtable@havehead}%
33  \let\captionlistentry\LWR@LTcaptionlistentry%
34  \tabular{#2}%
```

```

35 }
36 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```

37 \newcounter{LTchunksize}

```

Error for heads which should have been in `\warpprintonly`:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39   \PackageError{lwarp-longtable}
40   {For longtable:\MessageBreak
41   1: Keep either one of an \protect\endhead\space or\MessageBreak
42     \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43     \space to be used by both print and HTML.\MessageBreak
44   2: Place any other \protect\end... phrases inside a\MessageBreak
45     \space\protect\warpprintonly\space macro,
46     to be ignored by HTML.\MessageBreak
47   3: At the end of the table,\MessageBreak
48     \space add a final footer for HTML\MessageBreak
49     \space inside a \protect\warpprintonly\space macro.
50     This can be\MessageBreak
51     \space a copy of an \protect\endfoot\space or
52     \protect\endfirstfoot\MessageBreak
53     \space phrase, but without the actual \protect\endfoot\MessageBreak
54     \space or \protect\endfirstfoot\space macros.\MessageBreak
55     \space If using threeparttablex, add\MessageBreak
56     \space \protect\insertTableNotes\space here,
57     optionally with\MessageBreak
58     \space \protect\UseMinipageWidths\space in front.\MessageBreak
59   See the Lwarp documentation regarding\MessageBreak
60   longtables and threeparttablex}
61   {See the Lwarp documentation regarding longtables and threeparttablex.}
62 }

```

Error if more than one of `\endhead` or `\endfirsthead` is outside of `\warpprintonly`.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}%
65   {\LWR@longtable@headerror}%
66   {%
67     \booltrue{\LWR@longtable@havehead}
68     \LWR@tabularendofline% throws away options //[dim] and //*
69   }%
70 }

```

Error if more than one of these is outside of `\warpprint`.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of `\warpprint`.

```

73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

```

```

75 \let\tabularnewline\

```

```

76 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*\kill{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%
88 }

```

---

File 259 **lwarp-lpic.sty**

§ 368 Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

Pkg lpic

lpic is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

2 \BeforeBeginEnvironment{lpic}{%
3   \begin{lateximage}[-lpic-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

---

File 260 **lwarp-lscape.sty**

§ 369 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg lscape

lscape is ignored.

**for HTML output:** Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

2 \newenvironment*{landscape}{}{}

```

---

File 261 **lwarp-ltablex.sty**

§ 370 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

Pkg ltablex

ltablex is emulated by lwarp.

**for HTML output:**

Relies on tabularx.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*\keepXColumns{}
15 \newcommand*\convertXColumns{}

```

File 262 **lwarp-ltcaption.sty**

§ 371

Package

**ltcaption***(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg ltcaption

ltcaption is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]
```

\LTcaptype is already defined by lwarp.

longtable\* is already defined by lwarp-longtable.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*\LTcapmarginfalse{}

```

File 263 **lwarp-ltxgrid.sty**

§ 372

Package

**ltxgrid**

Pkg ltxgrid

ltxgrid is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]
```

```

2 \newcommand*\onecolumngrid{}
3 \newcommand*\twocolumngrid{}
4 \newcommand*\removestuff{}
5 \newcommand*\addstuff}[2]{}
6 \newcommand*\replacestuff}[2]{}

```


---

File 264 **lwarp-ltxtable.sty**

§ 373 Package **ltxtable**

Pkg ltxtable

ltxtable is emulated.

 **table numbering** The print version does not seem to honor longtable\* from the caption package, while lwarp does.

**for HTML output:**

```
1 \RequirePackage{tabularx, longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]
```

\LTXtable

```
{\width} {\file}
3 \newcommand*\LTXtable[2]{%
4   \input{#2}%
5 }
```

---

File 265 **lwarp-lua-check-hyphen.sty**

§ 374 Package **lua-check-hyphen**

Pkg lua-check-hyphen

lua-check-hyphen is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]
2 \newcommand*\LuaCheckHyphen[1]{}
```

---

File 266 **lwarp-lua-visual-debug.sty**

§ 375 Package **lua-visual-debug**

Pkg lua-visual-debug

lua-visual-debug is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]
```

---

File 267 **lwarp-luacolor.sty**

§ 376 Package **luacolor**

Pkg luacolor

luacolor is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]
2 \newcommand*\LuacolorProcessBox[1]{}
```

---

File 268 **lwarp-luamplib.sty**

§ 377 Package **luamplib**

(*Emulates or patches code by* HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DO-HYUN.)

Pkg luamplib

luamplib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%
3   \begin{lateximage}[-mplibcode~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}
```

---

File 269 **lwarp-luatexko.sty**

§ 378 Package **luatexko**

(*Emulates or patches code by* DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko

luatexko is patched for use by lwarp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \uline, etc.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luatexko}[2021/07/10]

2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15 %   \uline{#1}%
16   \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

19 \newcommand{\LWR@HTML@ruby}[2]{%
20   \LWR@htmltagc{ruby}%
21   #1%
22   \LWR@htmltagc{rp}\LWR@htmltagc{/rp}%
```

```

23 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
24 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
25 \LWR@htmltagc{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29 \InlineClass%
30 (text-decoration:underline; text-decoration-skip: auto)%
31 [%
32 text-decoration:underline; text-decoration-skip: auto;
33 text-decoration-thickness: \ulinewidth%
34 ]%
35 {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40 \InlineClass%
41 (%
42 text-decoration:underline; text-decoration-skip: auto;%
43 text-decoration-style:double%
44 )%
45 [%
46 text-decoration:underline; text-decoration-skip: auto;
47 text-decoration-thickness: \ulinewidth%
48 ]%
49 {uuline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54 \InlineClass%
55 (%
56 text-decoration:underline; text-decoration-skip: auto;%
57 text-decoration-style:wavy%
58 )%
59 [%
60 text-decoration:underline; text-decoration-skip: auto;
61 text-decoration-thickness: \ulinewidth%
62 ]%
63 {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68 \InlineClass%
69 (text-decoration:line-through)%
70 [text-decoration-thickness: \ulinewidth]%
71 {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76 \InlineClass%
77 (text-decoration:line-through)%
78 [text-decoration-thickness: \ulinewidth]%
79 {xout}{\LWR@isolate{#1}}%

```

```

80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84   \InlineClass%
85   (%
86     text-decoration:underline;%
87     text-decoration-skip: auto;%
88     text-decoration-style:dashed%
89   )%
90   [%
91     text-underline-offset: \linedown ;
92     text-decoration-thickness: \linewidth%
93   ]%
94   {dashuline}{\LWR@isolate{#1}}%
95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99   \InlineClass%
100  (%
101    text-decoration:underline;%
102    text-decoration-skip: auto;%
103    text-decoration-style: dotted%
104  )%
105  [%
106    text-underline-offset: \linedown ;
107    text-decoration-thickness: \linewidth%
108  ]%
109  {dotuline}{\LWR@isolate{#1}}%
110 }
111 \LWR@formatted{dotuline}

```

---

File 270 **lwarp-luatodonotes.sty**

§ 379 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Pkg luatodonotes

luatodonotes is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

```



```

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*\todototoc{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19   {\@todonotes@currentbordercolor}
20   {\@todonotes@currentbackgroundcolor}
21   {\arabic{\@todonotes@numberoftodonotes}}
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27   {\@todonotes@currentbordercolor}%
28   {\@todonotes@currentbackgroundcolor}%
29   {%
30     \if@todonotes@authorgiven%
31     {\@todonotes@author:\,}%
32     \fi%
33     \@todonotes@text%
34   }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38   \if@todonotes@authorgiven%
39     \@todonotes@author\par%
40   \fi%
41   \arabic{\@todonotes@numberoftodonotes}: %
42   \fcolorbox%
43   {\@todonotes@currentbordercolor}%
44   {\@todonotes@currentbackgroundcolor}%
45   {%
46     \@todonotes@sizecommand%
47     \@todonotes@text %
48   }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55   {\@todonotes@currentbordercolor}%
56   {\@todonotes@currentfigcolor}%
57   {%
58     \setlength{\fboxrule}{4pt}%
59     \fcolorbox{red}{white}{Missing figure} \quad #2%
60   }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%

```

---

```

69 \endgroup%
70 }
71
72 \renewcommand{\@todoarea}[3][[]]{%
73   \@todonotes@areaselectedtrue%
74   \@todocommon{#1}{#2}%
75   \@todonotes@textmark@highlight{#3}%
76   \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
82 }
83
84 \fi% \if@todonotes@disabled

```

---

File 271 **lwarp-luavlna.sty**

§ 380 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

Pkg luavlna

luavlna is patched for use by lwarp.

The package is disabled for HTML output, due to incompatibilities with lwarp's handling of math SVG images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]
2 \preventsingloff
3 \LetLtxMacro\preventsingleon\preventsingloff

```

---

File 272 **lwarp-lyluatex.sty**

§ 381 Package **lyluatex**


(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex


lyluatex is patched for use by lwarp.

For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

**css** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To

**css**

match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

- ⚠ **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}
```

- ⚠ **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ lwarpmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond--\PackageDiagramAltText}
```

`\ly@compilescore`

```
{(Lilypond object)}
5 \LetLtxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by `lyluatex.lua` to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13   \InlineClass{lyluatex}{%
14     \begin{lateximage}[\LyluatexImageAltText]%
15     \LWR@addbaselinemarker%
16     \LWR@origincludegraphics{##2}%
17     \end{lateximage}%
18   }%
19 }
```

From the original:

```
20 \ly@setunits%
21 \directlua{
22   ly_opts:set_option('currfiledir', [[\currfiledir]])
23   ly_opts:set_option('twoside', '\ly@istwosided')
24   #1
25 }
```

```
26 \ly@resetunits%
27 \ly@currentfonts%
```

The fullpage version is set inside an HTML <div>:

```
28 \directlua{
29     if (ly.score.insert == 'fullpage') then
30         tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31     end
32 }%
```

Generate the score:

```
33 \directlua{ly.score:process()}%
```

Close the <div>:

```
34 \directlua{
35     if (ly.score.insert == 'fullpage') then
36         tex.print{[[\string\end{BlockClass}]]}
37     end
38 }%
```

Move to a new page and renew the regular page geometry:

```
39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%
```

End of the local group.

```
41 \endgroup%
42 }
```

In HTML the following generates an error, so is removed:

```
43 \xpatchcmd{\endly@bufferenv}
44   {\hspace{0pt}}{\}
45   {}
46   {}
47   {\LWR@patcherror{lyluatex}{endly@bufferenv}}
```

File 273 **lwarp-magaz.sty**

§ 382 Package **magaz**

Pkg magaz

magaz is emulated.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

2 \newcommand\FirstLine[1]{%
3   \begingroup%
4   \FirstLineFont{%
5     \LWR@textcurrentcolor{%
6       \LWR@textcurrentfont{%
7         #1%
8       }%
9     }%
10  }%
11  \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

---

File 274 **lwarp-makeidx.sty**

§ 383 Package **makeidx**

(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)

Pkg makeidx

makeidx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \@AtBeginDocument by the lwarp core.

\printindex

```
2 \preto\printindex{%
3   \LWR@maybe@orignewpage%
4   \LWR@startpars%
5 }
```

---

File 275 **lwarp-manyfoot.sty**

§ 384 Package **manyfoot**

Pkg manyfoot

manyfoot is emulated.

**bigfoot**, **manyfoot** Verbatim footnotes are not yet supported.

 **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as an input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

lwarp's emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **lwarp** version instead.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}
5
```

```

6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{
9
10 \newcommand\footnoterulepriority{1}
11
12 \newcommand\SetFootnoteHook[1]{
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand\SplitNote{}
16
17 \newcommand*ExtraParaSkip[1]{
18
19 \newcommand*\newfootnote[2][plain]{%
20   \ifstrequal{#2}{default}{}% not "default"
21     \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22     \appto{\LWR@printpendingfootnotes}{%
23       \LWR@@printpendingfootnotes{footnote#2}%
24     }
25     \long\csdef{Footnotetext#2}##1##2{%
26       \NCC@makefnmark{##1}%
27       \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28     }%
29     \long\csdef{Footnotetext#2+}##1##2{%
30       \NCC@makefnmark{##1}%
31       \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32     }%
33   }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{%
38   \ifnextchar[%
39     {\LWR@manyfoot@declare{#1}{#2}}%
40     {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{}% not "default"
45   \newfootnote[#1]{#2}%
46   \newcounter{footnote#2}%
47   \newcounter{footnote#2Reset}%
48   \setcounter{footnote#2Reset}{0}%
49   \csdef{thefootnote#2}{%
50     \expandafter\noexpand\csname @#3\endcsname%
51     \expandafter\noexpand\csname c@footnote#2\endcsname%
52   }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53   \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54     \stepcounter{footnote#2}%
55     \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56     \@footnotemark%
57     \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58   }%
59   \csdef{footnotemark#2}{%
60     \stepcounter{footnote#2}%
61     \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%

```

---

```

62     \@footnotemark%
63   }%
64   \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65     \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66     \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67   }%
68   \csdef{Footnotemark#2}{%
69     \Footnotemark%
70   }%
71   \csdef{Footnote#2}##1{%
72     \Footnotemark{##1}%
73     \csuse{Footnotetext#2}{##1}%
74   }%
75 }% not "default"
76 }
77 \onlypreamble\DeclareNewFootnote

```

---

File 276 **lwarp-marginal.sty**

§ 385 Package **marginal**

Pkg marginal marginal is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}

```

---

File 277 **lwarp-marginfit.sty**

§ 386 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for lwarp-marginfit:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

---

File 278 **lwarp-marginfix.sty**

§ 387 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for lwarp-marginfix:

```

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

```

---

```

2 \newcommand*\marginkip}[1]{}
3 \newcommand*\clearmargin{}
4 \newcommand*\softclearmargin{}
5 \newcommand*\extendmargin}[1]{}
6 \newcommand*\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin}[1][1]{}
10 \newcommand*\unblockmargin}[1][1]{}
11 \newcommand*\marginphantom}[2][1]{}

```

---

File 279 **lwarp-marginnote.sty**

§ 388 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg marginnote

marginnote is emulated.

**for HTML output:**

Discard all options for lwarp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]
```

```
2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}
```

```
3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

```

```
11 \appto\LWR@restoreorigformatting{%
12   \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

```

For MATHJAX:

```
14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][1]{}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][1]{\quad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 280 **lwarp-marvosym.sty**

§ 389 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

Pkg marvosym

marvosym is patched for use by lwarp.



Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]
2 \renewcommand{\mvchr}[1]{%
3   \begin{lateximage}*{symbol #1}[marvosym #1]%
4   \mvs\char#1%
5   \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9   \begin{lateximage}%
10  \mvs #1%
11  \end{lateximage}%
12 }
```

---


File 281 **lwarp-mathalpha.sty**

§ 390 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg mathalpha

**mathalpha** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be not supported by MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathalpha}[2021/11/18]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbfbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfcal}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbffrak}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbfscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}
16 \end{warpMathJax}
```

---

File 282 **lwarp-mathastext.sty**

§ 391 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg mathastext

**mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
```

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 %   \LWR@mathjax@addgreek@l@it{}{}
7 \else
8   \ifmst@upgreek
9     \LWR@mathjax@addgreek@l@up{}{}
10  \else
11    \ifmst@frenchmath
12      \LWR@mathjax@addgreek@l@up{}{}
13    \else
14      \ifmst@italic
15 %     \LWR@mathjax@addgreek@l@it{}{}
16      \else
17        \LWR@mathjax@addgreek@l@up{}{}
18      \fi
19    \fi
20  \fi
21 \fi
22
23 \ifcase\mst@greek@select
24   \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 %   \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 283 **lwarp-mathcomp.sty**

§ 392 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

Pkg mathcomp

mathcomp is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}

```

```

4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```


File 284 **lwarp-mathdesign.sty**

§ 393 Package **mathdesign**

*(Emulates or patches code by PAUL PICHAREAU.)*

Pkg mathdesign

mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to mathdesign inconsistency:

```
20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWOverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWOverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}
```

Integrals:

```
27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
```

Math and text mode:

```
32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}
```

Extra symbols:

```
37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}
```

---

File 285 **lwarp-mathdots.sty**

§ 394 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

**mathdots** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixeddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originaldots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
```

```

10 \CustomizeMathJax{\let\originalddot\ddot}
11 \CustomizeMathJax{\let\originalddd\ddd}
12 \end{warpMathJax}

```

---

File 286 **lwarp-mathfixs.sty**

§ 395 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

Pkg mathfixs

mathfixs is used as-is for SVG math, and is emulated for MATHJAX.



Greek letters are unchanged.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\frac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{\!^{\!#1}\!/_{#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{} }
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```

---

File 287 **lwarp-mathpazo.sty**

§ 396 Package **mathpazo**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg mathpazo

mathpazo is used as-is for SVG math, and is emulated for MATHJAX.



**limitations**

The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

```

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```

---


File 288 **lwarp-mathptmx.sty**

§ 397 Package **mathptmx**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg mathptmx

mathptmx is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8   {\LWR@mathjax@addgreek@u@it*{}{}}
9   {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}}
12 \end{warpMathJax}

```

---


File 289 **lwarp-mathspec.sty**

§ 398 Package **mathspec**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg mathspec

mathspec is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (\" and the " character) are removed during MATHJAX emulation, but this also includes inside \text.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (" and \"):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8   \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10  \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12  \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15  \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17  \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19  \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24   \eu@ifbooltrue{exchangebetaforms}{
25     \CustomizeMathJax{\let\LWRorigbeta\beta}
26     \CustomizeMathJax{\let\beta\varbeta}
27     \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28   }
29   \eu@ifbooltrue{exchangeepsilonforms}{
30     \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31     \CustomizeMathJax{\let\epsilon\varepsilon}
32     \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33   }
34   \eu@ifbooltrue{exchangethetaforms}{
35     \CustomizeMathJax{\let\LWRorigtheta\theta}
36     \CustomizeMathJax{\let\theta\vartheta}
37     \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38   }
39   \eu@ifbooltrue{exchangekappaforms}{
40     \CustomizeMathJax{\let\LWRorigkappa\kappa}
41     \CustomizeMathJax{\let\kappa\varkappa}
42     \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43   }
44   \eu@ifbooltrue{exchangepiforms}{
45     \CustomizeMathJax{\let\LWRorigpi\pi}
46     \CustomizeMathJax{\let\pi\varpi}
47     \CustomizeMathJax{\let\varpi\LWRorigpi}
48   }
49   \eu@ifbooltrue{exchangerhoforms}{
50     \CustomizeMathJax{\let\LWRorigrho\rho}
51     \CustomizeMathJax{\let\rho\varrho}
52     \CustomizeMathJax{\let\varrho\LWRorigrho}
53   }
54   \eu@ifbooltrue{exchangephiforms}{
55     \CustomizeMathJax{\let\LWRorigphi\phi}
56     \CustomizeMathJax{\let\phi\varphi}
57     \CustomizeMathJax{\let\varphi\LWRorigphi}
58   }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61   \eu@ifbooltrue{exchangeThetaforms}{
62     \CustomizeMathJax{\let\LWRorigTheta\Theta}

```

```

63     \CustomizeMathJax{\let\Theta\varTheta}
64     \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65   }
66 }
67 }

```

Append new action to `mathspec's \AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69   {\AtBeginDocument{\LWR@mathspec@varforms}}
70   {}
71   {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

---

File 290 **lwarp-mathtools.sty**

§ 399 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)*

Pkg mathtools

⚠ equation numbering

`mathtools` is patched for use by `lwarp`. Emulation macros are provided for `MATHJAX`.

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

⚠ italic correction `mathic` is not emulated for HTML.

⚠ **MATHJAX** If using `MATHJAX`:

- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:

```

\begin{gathered}{}
[p]=1 . . .
\end{gathered}

```

- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires math mode, but in `LATEX` it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{mathtools}[2018/01/08]`

2 `\RequirePackage{graphicx}`

3 `\MHInternalSyntaxOn`

Forces `showonlyrefs` off because `lwarp` uses `cleveref`, which is not compatible with `showonlyrefs`.



```

4 \renewcommand*{\MT_showonlyrefs_true}:{%
5   \PackageWarningNoLine{lwarp}
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref,\MessageBreak
9     which \space is \space used \space by \space lwarp, \space
10    so \space showonlyrefs \space is\MessageBreak
11    forced \space off. \space\space
12    Equation \space numbers \space may \space not \space match%
13  }
14  \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

```

```

19 \MHInternalSyntaxOff

```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
36 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\notag \ \}}
44
45 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
46 \renewcommand{\DeclarePairedDelimiter}[3]{
47   \LWR@mathtools@orig@DeclarePairedDelimiter{\#1}{\#2}{\#3}
48 % starred:
49   \appto\LWR@customizedMathJax{\LWRbackslash()}
50   \appto\LWR@customizedMathJax{%
51     \LWRbackslash}newcommand{\LWRbackslash\macroto{name{\#1}LWRsubstar}\}%
52   }%
53   \appto\LWR@customizedMathJax[2][\%

```

```

54 \appto\LWR@customizedMathJax{\{\}%
55 \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
56 \appto\LWR@customizedMathJax{\}\}%
57 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
58% not starred:
59 \appto\LWR@customizedMathJax{\LWRbackslash()}
60 \appto\LWR@customizedMathJax{%
61 \LWRbackslash}newcommand{\LWRbackslash\macrotoocsname{#1}LWRsubnstar\}%
62 }%
63 \appto\LWR@customizedMathJax{[2][[]]%
64 \appto\LWR@customizedMathJax{\{\}%
65 \LWR@subcustomizedmathjax{##1##2##1##3}%
66 \appto\LWR@customizedMathJax{\}\}%
67 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
68% user macro:
69 \appto\LWR@customizedMathJax{\LWRbackslash()}
70 \appto\LWR@customizedMathJax{%
71 \LWRbackslash}newcommand{\LWRbackslash}\macrotoocsname{#1}\}%
72 {\LWRbackslash}ifstar%
73 \LWRbackslash}\macrotoocsname{#1}LWRsubstar%
74 \LWRbackslash}\macrotoocsname{#1}LWRsubnstar%
75 \}%
76 }%
77 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
78 }
79 \@onlypreamble\DeclarePairedDelimiter
80
81% (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
85 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
86% subsubstar, second opt arg
87 \appto\LWR@customizedMathJax{\LWRbackslash()}%
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash}newcommand{\LWRbackslash\macrotoocsname{#1}LWRsubsubstar\}%
90 }%
91 \appto\LWR@customizedMathJax{[#2]%
92 \appto\LWR@customizedMathJax{\{\LWRbackslash}left}%
93 \LWR@subcustomizedmathjax{#3##4##7}%
94 \appto\LWR@customizedMathJax{\LWRbackslash}right}%
95 \LWR@subcustomizedmathjax{#5##6}%
96 \appto\LWR@customizedMathJax{\}\}%
97 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
98% substar, first opt arg
99 \appto\LWR@customizedMathJax{\LWRbackslash()}%
100 \appto\LWR@customizedMathJax{%
101 \LWRbackslash}newcommand{\LWRbackslash\macrotoocsname{#1}LWRsubstar}[1][[]%
102 }%
103 \appto\LWR@customizedMathJax{%
104 \{
105 \LWRbackslash}def\LWRbackslash}delimsizel\#1\}
106 \LWRbackslash\macrotoocsname{#1}LWRsubsubstar
107 \}%
108 }%
109 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
110% subsubnstar, second opt arg
111 \appto\LWR@customizedMathJax{\LWRbackslash()}%
112 \appto\LWR@customizedMathJax{%
113 \LWRbackslash}newcommand{\LWRbackslash\macrotoocsname{#1}LWRsubsubnstar\}%

```

```

114 }%
115 \appto\LWR@customizedMathJax{[#2]}%
116 \appto\LWR@customizedMathJax{\{\LWRbackslash\}delimsi}%
117 \LWR@subcustomizedmathjax{#3#4#7}%
118 \appto\LWR@customizedMathJax{\LWRbackslash\}delimsi}%
119 \LWR@subcustomizedmathjax{#5#6}%
120 \appto\LWR@customizedMathJax{\}\}%
121 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
122 % subnostar, first opt arg
123 \appto\LWR@customizedMathJax{\LWRbackslash\}%
124 \appto\LWR@customizedMathJax{%
125   \LWRbackslash\}newcommand{\LWRbackslash\macroto{name{#1}LWRsubnostar\}[1][]%
126 }%
127 \appto\LWR@customizedMathJax{%
128   \{
129     \LWRbackslash\}def\LWRbackslash\}delimsi\{#1\}
130     \LWRbackslash\macroto{name{#1}LWRsubsubnostar
131     \}%
132 }%
133 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
134 % user macro:
135 \appto\LWR@customizedMathJax{\LWRbackslash\}%
136 \appto\LWR@customizedMathJax{%
137   \LWRbackslash\}newcommand{\%
138   \LWRbackslash\}\macroto{name{#1}%
139   \}%
140   \{\LWRbackslash\}ifstar%
141   \LWRbackslash\}\macroto{name{#1}LWRsubstar%
142   \LWRbackslash\}\macroto{name{#1}LWRsubnostar%
143   \}%
144 }%
145 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
146 }
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
151
152 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
153 \renewcommand{\newgathered}[4]{%
154   \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
155   \appto\LWR@customizedMathJax{\LWRbackslash\}%
156   \LWR@subcustomizedmathjax{%
157     \newenvironment{#1}{\begin{gathered}}{\end{gathered}}}%
158 }%
159 \appto\LWR@customizedMathJax{\LWRbackslash\}%
160 }
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}

```

---

File 291 **lwarp-mattens.sty**

§ 400 Package **mattens**

*(Emulates or patches code by DANIE ELS.)*

Pkg mattens

mattens is used as-is for SVG math, and is emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6   {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10  {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14   \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18   \let\LWRmattenscross\LWRmattensnull%
19   \let\LWRmattensovercmd\overrightarrow%
20   \let\LWRmattensundercmd\LWRmattensnull%
21   \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25   \let\LWRmattenscross\LWRmattensnull%
26   \let\LWRmattensovercmd\underrightarrow%
27   \let\LWRmattensundercmd\LWRmattensnull%
28   \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32   \let\LWRmattenscross\LWRmattensnull%
33   \let\LWRmattensovercmd\overline%
34   \let\LWRmattensundercmd\LWRmattensnull%
35   \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\Sb}{%
39   \let\LWRmattenscross\LWRmattensnull%
40   \let\LWRmattensovercmd\underline%
41   \let\LWRmattensundercmd\LWRmattensnull%
42   \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46   \let\LWRmattenscross\LWRmattensnull%
47   \let\LWRmattensovercmd\overrightarrow%
48   \let\LWRmattensundercmd\underrightarrow%
49   \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53   \let\LWRmattenscross\LWRmattensnull%
54   \let\LWRmattensovercmd\overrightarrow%
55   \let\LWRmattensundercmd\underline%
56   \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%

```

```

60 \let\LWRmattenscross\LWRmattensnull%
61 \let\LWRmattensovercmd\overline%
62 \let\LWRmattensundercmd\underline%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattenscross\LWRmattensnull%
68 \let\LWRmattensovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattenscross\tilde%
75 \let\LWRmattensovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattenscross\tilde%
82 \let\LWRmattensovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 }}
86 \end{warpMathJax}

```

---


File 292 **lwarp-maybemath.sty**

§ 401 Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

Pkg maybemath

maybemath is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all maybemath macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1]{\{#1\}}}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeitsubscript\mayberm}
8 \CustomizeMathJax{\let\maybesf\mayberm}
9 \CustomizeMathJax{\let\maybebmsf\mayberm}
10 \end{warpMathJax}

```

---

File 293 **lwarp-mcaption.sty**

§ 402 Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

Pkg mcaption

mcaption is ignored.

**for HTML output:** Discard all options for lwarp-mcaption:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]
2 \newenvironment{margincap}{}{}
3 \newcommand*{\margincapalign}{}
4 \newlength{\margincapsep}
```

---

File 294 **lwarp-mdframed.sty**

§ 403 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

Pkg mdframed

mdframed is loaded with options forced to framemethod=none.

§ 403.1 **Limitations**

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

 **loading** When used, lwarp loads mdframed in HTML with framemethod=none.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since lwarp does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the mdframed source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by mdframed are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 403.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 403.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 % \topsep=\the\topsep\relax%
9 % \partopsep=\the\partopsep\relax%
10 % \parsep=\the\parsep\relax%
11 }%
12 \setlength{\topsep}{#1}%
13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \@nibrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\itemlabel\empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*{\endmdf@trivlist}{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument
```

### § 403.4 Initial setup

To handle CSS and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```
32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }
```

### § 403.5 **Color and length HTML conversion**

`\LWR@mdfprintcolor`

`{\mdfcolorkey}`

Given the `mdframed` key, print the color.

```
38 \newcommand*\LWR@mdfprintcolor[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

`\LWR@mdfprintlength`

`{\mdflengthkey}`

Given the `mdframed` key, print the length.

```
42 \newcommand*\LWR@mdfprintlength[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

### § 403.6 **Environment encapsulation**

`\LWR@mdframedstart`

Actions before an `mdframe` starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*\LWR@mdframedstart{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and encode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
```



```

64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline

68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}

```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```

70 \let\hspace\LWR@print@hspace%
71 \renewcommand*\rule{\LWR@print@rule}
72 \LetLtxMacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }

```

\LWR@mdframedend

Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```

76 \newcommand*\LWR@mdframedend{}
77 \LWR@traceinfo{LWR@mdframedend start}%

```

Close the custom <div>:

```

78 \LWR@htmldivclassend{\LWR@mdthisenv}

```

Reset future custom class to the default:

```

79 \gdef\LWR@mdthisenv{mdframed}

```

Resume paragraph handling:

```

80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }

```

### § 403.7 Mdfamed environment

```

83 \renewenvironment{mdframed}[1][[]]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@firstframetitle%
91      }%
92 \ifvmode\nointerlineskip\fi%
93     \ifdefempty{\mdf@frametitle}{}%
94     {\mdfframedtitleenv{\mdf@frametitle}%
95      \mdf@@frametitle@use%
96      }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@@ignorelastdescenders%
104 \par%

```

```

105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 \mdf@endinnercode%
110 \endmdf@lrbox%
111 \ifdefempty{\mdf@frametitle}{}%
112 {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 \detected@mdf@put@frame
114 }%
115 \else%
116 \def\mdf@reserveda{%
117 \mdf@endinnercode%
118 \endmdf@lrbox%
119 \ifdefempty{\mdf@frametitle}{}%
120 {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 \detected@mdf@put@frame%
122 \mdf@footnoteoutput%
123 }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

### § 403.8 Titles and subtitles

\mdfframedtitleenv

*{<title>}*

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```
137 \begin{BlockClass}[%
```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbool{mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{%

```

Finish the custom style and the opening <div> tag:

148 ]{mdframedtitle}%

Print the title inside the <div>:

149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%

Close the <div>:

150 \end{BlockClass}%

151 \LWR@traceinfo{LWR@mdframedtitleenv end}%

152 }

\LWR@mdfsubtitlecommon

{<sub — or — subsub>} [<options>] {<title>}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}

154 {% the following empty line is required

155

156 \LWR@traceinfo{LWR@mdframedsubtitlecommon start}%

Open a <div> with a custom class and custom style:

157 \begin{BlockClass}[%

Convert and print the background color:

158 background:

159 \LWR@mdfprintcolor{#1titlebackgroundcolor}

160 ; \LWR@orignewline

Convert and print the above line:

161 \ifbool{mdf@#1titleaboveline}{%

162 border-top:

163 \LWR@mdfprintlength{#1titleabovelinewidth}

164 solid

165 \LWR@mdfprintcolor{#1titleabovelinecolor}

166 ; \LWR@orignewline

167 }{ }%

Convert and print the below line:

168 \ifbool{mdf@#1titlebelowline}{%

169 border-bottom:

170 \LWR@mdfprintlength{#1titlebelowlinewidth}

171 solid

172 \LWR@mdfprintcolor{#1titlebelowlinecolor}

173 ; \LWR@orignewline

174 }{ }%

Finish the custom style and the opening <div> tag:

175 ]{mdframed#1title}%

Perform the original subtitle action:

176 \IfNoValueTF{#2}

177 {\@nameuse{LWR@origmdf#1title}{\cuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%

178 {\@nameuse{LWR@origmdf#1title}[#2]{\cuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%

Close the <div>:

179 \end{BlockClass}%

180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%

181 }

```

\LRW@mdfsubtitle      [⟨options⟩] {⟨title⟩}
182 \newcommand*{\LRW@mdfsubtitle}{%
183 \LRW@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LRW@mdfsubtitle

```

```

\LRW@mdfsubsubtitle  [⟨options⟩] {⟨title⟩}
186 \newcommand*{\LRW@mdfsubsubtitle}{%
187 \LRW@mdfsubsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LRW@mdfsubsubtitle

```

### § 403.9 New environments

`\LRW@mdthisenv` Stores the environment of the frame about to be created:

```

190 \newcommand*{\LRW@mdthisenv}{mdframed}

```

`\newmdenv` [⟨options⟩] {⟨env-name⟩}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*{\LRW@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }
198 {\end{mdframed}}%
199 }

```

`\surroundwithmdframed` [⟨options⟩] {⟨environment⟩}

Modified from the original to remember the environment.

```

200 \renewrobustcmd*{\surroundwithmdframed}[2][]{%
201 \BeforeBeginEnvironment{#2}%
202 \renewcommand*{\LRW@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

`\mdtheorem` [⟨mdframed-options⟩] {⟨envname⟩} [⟨numberedlike⟩] {⟨caption⟩} [⟨within⟩]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208  {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209  {%
210   \IfNoValueTF {#3}%
211   {%#3 not given -- number relationship
212    \IfNoValueTF {#5}%
213    {%#3+#5 not given
214     \@definecounter{#2}%
215     \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216     \newenvironment{#2}[1][]{%

```

```

217     \refstepcounter{#2}%
218     \ifstrempy{##1}%
219     {\let\@temptitle\relax}%
220     {%
221     \def\@temptitle{\mdf@theoremseparator%
222     \mdf@theoremspace%
223     \mdf@theoremtitlefont%
224     \LWR@textcurrentfont{##1}}% lwarp
225     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226     }%
227 \begin{mdframed}[#1,frametitle={\strut#4 \csname the#2\endcsname%
228     \@temptitle}]]%
229     {\end{mdframed}}%
230 \newenvironment{#2*}[1][]{%
231     \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232     \begin{mdframed}[#1,frametitle={\strut#4 \@temptitle}]]%
233     {\end{mdframed}}%
234     }%
235 {%#5 given -- reset counter
236 \definecounter{#2}\@newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239     \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240     \@thmcounter{#2}}%
241 \newenvironment{#2}[1][]{%
242     \refstepcounter{#2}%
243     \ifstrempy{##1}%
244     {\let\@temptitle\relax}%
245     {%
246     \def\@temptitle{\mdf@theoremseparator%
247     \mdf@theoremspace%
248     \mdf@theoremtitlefont%
249     \LWR@textcurrentfont{##1}}% lwarp
250     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251     }
252 \begin{mdframed}[#1,frametitle={\strut#4 \csname the#2\endcsname%
253     \@temptitle}]]%
254     {\end{mdframed}}%
255 \newenvironment{#2*}[1][]{%
256     \ifstrempy{##1}%
257     {\let\@temptitle\relax}%
258     {%
259     \def\@temptitle{\mdf@theoremseparator%
260     \mdf@theoremspace%
261     \mdf@theoremtitlefont%
262     \LWR@textcurrentfont{##1}}% lwarp
263     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264     }%
265     \begin{mdframed}[#1,frametitle={\strut#4 \@temptitle}]]%
266     {\end{mdframed}}%
267     }%
268     }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
271 \newenvironment{#2}[1][]{%
272     \refstepcounter{#3}%
273     \ifstrempy{##1}%
274     {\let\@temptitle\relax}%
275     {%
276     \def\@temptitle{\mdf@theoremseparator%

```

```

277             \mdf@theoremspace%
278             \mdf@theoremtitlefont%
279             \LWR@textcurrentfont{##1}}% lwarp
280         \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281     }
282     \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283                                     \@temptitle}]]%
284         {\end{mdframed}}%
285     \newenvironment{#2*}[1][]{%
286         \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
287         \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288             {\end{mdframed}}%
289     }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv

[<1: *mdframed-options*>] {<2: *envname*>} [<3: *numberedlike*>] {<4: *caption*>}  
 [<5: *within*>]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{0}{ m o m o }{%
295     \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296         {\newtheorem{#2}{#4}}%
297         {%
298             \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299             \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300         }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv{md#2}}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

File 295 **lwarp-mdwmath.sty**

§ 404 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg mdwmath

mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LWRmdwmathsqrt\LWRmdwmathsqrt}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblort{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dblortand{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}

```

File 296 **lwarp-media9.sty**

§ 405 Package **media9**

Pkg media9

media9 is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with .../embed/... instead of .../v/...

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with xparse \SplitList, which does not seem to work with a catcode 12 divider token, so & is not converted to catcode 12, and will not work in a URL with media9. Using & in a URL in a flashvars field may also cause parsing problems with print output, as well.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

2 \LWR@origRequirePackage{lwarp-common-multimedia}

```

3
4 \RequirePackage{xkeyval}

```

\addmediapath

{*<path>*}

Supported.

```

5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath[1]{\appto\LWR@medianine@path{#1}}

```

The options and poster text are reused in several places.

```

8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}

```

Each addressource can generate a multimedia object.

```

10 \define@key{LWR@medianine}{addressource}{%
11   \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12     {\LWR@medianine@postertext}
13     {#1}
14 }

```

Each flashvars source can generate a multimedia object.

```

15 \newcommand*\LWR@medianine@flashvarsb[1]{%
16   \IfBeginWith{#1}{source=}{%
17     \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18     \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19       {\LWR@medianine@postertext}%
20       {\LWR@tempone}%
21   }{%
22     \IfBeginWith{#1}{src=}{%
23       \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24       \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25         {\LWR@medianine@postertext}%
26         {\LWR@tempone}%
27     }{%
28   }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31   \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{LWR@medianine}{flashvars}{%
35   \LWR@medianine@flashvars{#1}%
36 }

```

\includemedia

[*<options>*] [*<poster text>*] [*<file or url>*]

```

37 \newcommand*\LWR@includemediab[3][[]]{%
38   \let\input@path\LWR@medianine@path%
39   \renewcommand*\LWR@medianine@options{#1}%
40   \renewcommand*\LWR@medianine@postertext{#2}%
41   \setkeys*LWR@medianine{#1}%
42   \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43     \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44     \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%

```



```

45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46   }}}%
47 \endgroup%
48 }
49
50 \newrobustcmd*{\includemedia}{%
51   \begingroup%
52   \LWR@linkmediacatcodes%
53   \LWR@includemediab%
54 }

```

`\mediabutton`

`[\langle options \rangle] \langle text \rangle`

Ignored.

```
55 \newcommand*{\mediabutton}[2][{}]
```

---

File 297 **lwarp-memhfixc.sty**

§ 406 Package **memhfixc**

Pkg memhfixc

memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 298 **lwarp-menukeys.sty**

§ 407 Package **menukeys**

Pkg menukeys

*(Emulates or patches code by TOBIAS WEH.)*

menukeys is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3   {\@nameuse{tw@style@#4@pre}}
4   {%
5     \begin{lateximage}*\detokenize{##2}}%
6     \@nameuse{tw@style@#4@pre}%
7   }
8   {}
9   {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12   {\@nameuse{tw@style@#4@post}}
13   {%
14     \@nameuse{tw@style@#4@post}%
15     \end{lateximage}%
16   }

```

```

17 {}
18 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 299 **lwarp-metalogo.sty**

§ 408 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg metalogo

metalogo is used in print mode, and emulated in HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

2 \newcommand*\LWR@HTML@setlogokern}[2]{}
3 \newcommand*\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 300 **lwarp-metalogox.sty**

§ 409 Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg metalogox

metalogox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

```

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```

2 \AtBeginDocument{
3   \let\LWR@metalogox@currentformatting\LWR@formatting
4   \renewcommand*\LWR@formatting}{print}%
5   \autoadjustlogos*
6   \let\LWR@formatting\LWR@metalogox@currentformatting
7 }

```

File 301 **lwarp-mhchem.sty**

§ 410 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg mhchem

mhchem is patched for use by lwarp.

**without MATHJAX** Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension** For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:


```
 $\ce{C6H5-CHO}$ 
```

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
\[ \ce{ . . . } \] . . . $ \ce { . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.

 **nested math** When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                              |       |
|----------------------------------------------|-------|
| <code>\ce{NaOH(aq, \$\infty\$)}</code>       | % old |
| <code>\ce{NaOH(aq, \infty)}</code>           | % new |
| <code>\ce{Fe(CN)_{\frac{6}{2}}}</code>       | % old |
| <code>\ce{Fe(CN)_{\frac{6}{2}}}</code>       | % new |
| <code>\ce{NO_{\$x}}</code>                   | % old |
| <code>\ce{NO_x}</code>                       | % new |
| <code>\ce{NO_{\$x}}</code>                   | % old |
| <code>\ce{NO_{x}}</code>                     | % new |
| <code>\ce{\$cis\$-}[PtCl2(NH3)2]</code>      | % old |
| <code>\ce{\mathit{cis}-}[PtCl2(NH3)2]</code> | % new |

**for HTML output:** 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of `\ce`:

```
2 \LetLtxMacro\LWR@mhchem@orig\ce
```

The new definition, called from the new `\ce` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4   \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5   \ifbool{\LWR@xfakebold}%
6     {\def\LWR@tempone{Y}}%
7     {\def\LWR@tempone{N}}%
8   \begin{lateximage}%
9     *%
10    [%
11      \textbackslashash{%
12        ce%
13        \{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
14      ]%
15    *%
16    [%
17      FM\LWR@family%
18      SR\LWR@series%
19      SH\LWR@shape%
20      SHC\LWR@shapecaps%
21      CL\LWR@tempcolor%
22      FB\LWR@tempone% xfakebold
23    ]%
24    \LWR@setcurrentfont%
25    \LWR@mhchem@origce{#1}%
26    \end{lateximage}%
27    \endgroup%
28    \addtocounter{\LWR@mhchem@cedepth}{-1}%
29 }

```

Only set math shift if outer depth:

```

30 \newcounter{\LWR@mhchem@cedepth}
31 \setcounter{\LWR@mhchem@cedepth}{0}

```

The new `\ce`. Sets math shift then continues.

```

32 \renewcommand{\ce}{%
33   \begingroup%
34   \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
35     \catcode'\$=3% math shift
36   }{%
37     \addtocounter{\LWR@mhchem@cedepth}{1}%
38     \LWR@mhchem@HTML@ce%
39 }

```

The original definition of `\cesplit`:

```

40 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit

```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

41 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
42 {%
43   \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

```

44 \ifbool{LWR@xfakebold}%
45   {\def\LWR@tempone{Y}}%
46   {\def\LWR@tempone{N}}%
47 \begin{lateximage}%
48   *%
49   [%
50     \textbackslashash{}%
51     cesplit%
52     {\LWR@HTMLsanitizedetokenized{\detokenize{#2}}}%
53   ]%
54   *%
55   [%
56     FM\LWR@family%
57     SR\LWR@series%
58     SH\LWR@shape%
59     SHC\LWR@shapecaps%
60     CL\LWR@tempcolor%
61     FB\LWR@tempone% xfakebold
62   ]%
63 \LWR@setcurrentfont%
64 \LWR@mhchem@origcesplit{#1}{#2}%
65 \end{lateximage}%
66 \endgroup%
67 }

```

Only set math shift if outer depth:

```

68 \newcounter{LWR@mhchem@cesplitdepth}
69 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

70 \renewcommand{\cesplit}{%
71   \begingroup%
72   \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
73     \catcode'\$=3% math shift
74   }{%
75     \addtocounter{LWR@mhchem@cesplitdepth}{1}%
76     \LWR@mhchem@HTML@cesplit%
77 }

```

Resore originals inside a lateximage:

```

78 \appto\LWR@restoreorigformatting{%
79 \LetLtxMacro\ce\LWR@mhchem@origce%
80 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
81 }
82
83 \begin{warpMathJax}
84 \CustomizeMathJax{\require{mhchem}}
85 \end{warpMathJax}

```

---

File 302 **lwarp-microtype.sty**

§ 411 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg microtype

microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:**

Discard all options for lwarp-microtype:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

---

File 303 **lwarp-midfloat.sty**

§ 412 Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg midfloat

midfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

2 \newenvironment{strip}[1][[]]{}{}
3 \newskip\stripsep

```

---

File 304 **lwarp-midpage.sty**

§ 413 Package **midpage**

Pkg midpage

midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```

2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4   \LWR@print@mbx{margin-top:6ex} ; \LWR@print@mbx{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}
```

---

File 305 **lwarp-minibox.sty**

§ 414 Package **minibox**

Pkg minibox

*(Emulates or patches code by WILL ROBERTSON.)*

minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```

2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][]{%
4   \LWR@stoppars%
5   \group_begin:
6   \keys_set:nn {minibox} {#1}
7   \bool_if:NTF \l_minibox_frame_bool
8   {
9     \setlength\fbxrule{\l_minibox_rule_dim}
10    \setlength\fbxsep{\l_minibox_pad_dim}
11    \fbxBlock{%
12      \begin{tabular}[\l_minibox_tabular_valign_tl]%
13        {\l_minibox_tabular_preamble_tl}
14        {#2}
15      \end{tabular}
16    }%
17  }
18  {
19    \begin{BlockClass}[display:inline-block]{minibox}
20    \begin{tabular}[\l_minibox_tabular_valign_tl]%
21      {\l_minibox_tabular_preamble_tl}
22      {#2}
23    \end{tabular}
24    \end{BlockClass}
25  }
26  \group_end:
```

```

27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 306 **lwarp-minitoc.sty**

§ 415 Package **minitoc**

Pkg minitoc

minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

```
2 \usepackage{mtcoff}
```

---


File 307 **lwarp-minted.sty**

§ 416 Package **minted**

Pkg minted

*(Emulates or patches code by GEOFFREY M. POORE.)*

minted is patched for use by lwarp.

 **limitations** mathescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to *pdf<sub>l</sub>atex*, extra spaces may appear in broken lines if other formatting is included.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minted}[2021/12/24]

```

2 \xpatchcmd{\minted}
3   {\setkeys{minted@opt@cmd}{#1}}
4   {%
5     \setkeys{minted@opt@cmd}{%
6       #1,%
7       mathescape=false,breaklines,texcomments=false,highlightlines={}%
8     }%
9   }
10  {}
11  {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14   {\setkeys{minted@opt@cmd}{#1}}
15   {\setkeys{minted@opt@cmd}{%
16     #1,%
17     mathescape=false,breaklines,texcomments=false,highlightlines={}%
18   }%
19   }
20   {}
21   {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}

```



```

24   {\setkeys{minted@opt@cmd}{#1}}
25   {%
26     \setkeys{minted@opt@cmd}{%
27       #1,%
28       mathescape=false,breaklines,texcomments=false,highlightlines={}%
29     }%
30   }
31   {}
32   {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35   {\setkeys{minted@opt@cmd}{#1}}
36   {\setkeys{minted@opt@cmd}{%
37     #1,%
38     mathescape=false,breaklines,texcomments=false,highlightlines={}%
39   }%
40   }
41   {}
42   {\LWR@patcherror{minted}{inputminted}}
43
44 \renewenvironment{minted@snugshade*}[1]%
45 {%
46   \colorlet{shadecolor}{#1}%
47   \begin{snugshade*}%
48 }
49 {%
50   \end{snugshade*}%
51 }

```

---


File 308 **lwarp-mismath.sty**

§ 417 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg mismath

**mismath** is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.7. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

for HTML output: 1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3   \RenewEnviron{mathcols}{%
4     \preto\BODY{\begin{aligned}\displaystyle}
5     \appto\BODY{\end{aligned}}
6     \expandafter\(\\BODY\)
7   }
8 }% mathjax

```

For svg math. The lateximage restores the original defintion of the math environment.

```

9 {% svg
10  \renewenvironment{mathcols}{
11    \begin{lateximage}
12    \begin{math}
13    \begin{aligned}\displaystyle
14  }{
15    \end{aligned}%
16    \end{math}
17    \end{lateximage}
18  }
19 }% svg
20
21 \renewcommand{\changeacol}{
22   \end{aligned} \quad
23   \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
37 \CustomizeMathJax{%
38   \newcommand{\norm}[1]{\left\vert\left\vert#1\right\vert\right\vert}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{\!|\!|}\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55

```

```

56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace{}}}
108 \CustomizeMathJax{\newcommand{\iif}{if and only if}}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{\#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(\#1\right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left(\ #1 \right)^{\! \#2}}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left\vert\#1\right\vert}}

```

```

116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\: #1\:}{\: #2\:}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][L]%
119   {\left\{\begin{array}{@{.15em}#1@{}}
120   {\end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}
124   {\left(\begin{smallmatrix}
125   {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129   \newenvironment{mathcols}
130     {\begin{aligned}\displaystyle}
131     {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changeacol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135   \ifdef{\itpi}{
136     \CustomizeMathJax{\let\itpi\pi}
137   }{}
138   \ifdefstring{\boldvectcommand}{\mathbf}{
139     \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
140   }{
141     \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142   }
143   \ifbool{arrowvect}{
144     \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145   }{
146     \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
147   }
148   \ifdefstring{\probastyle}{\mathbb}{
149     \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
150   }{
151     \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152   }
153   \ifdefstring{\mathset}{\mathbb}{
154     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155   }{
156     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157   }
158 }
159 \end{warpMathJax}

```

---

File 309 **lwarp-mleftright.sty**

§ 418 Package **mleftright**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg mleftright

**mleftright** is used as-is, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrighthrestore}{}}
7 \end{warpMathJax}

```

---

File 310 **lwarp-morefloats.sty**

§ 419 Package **morefloats**

Pkg morefloats morefloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

File 311 **lwarp-moreverb.sty**

§ 420 Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg moreverb moreverb is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatiminput\verbatiminput
12
13 \renewcommand{\@verbatiminput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatiminput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage

```

```

31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][[]]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

---

File 312 **lwarp-movie15.sty**

§ 421 Package **movie15**

Pkg movie15

**movie15** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a **YOUTUBE™** video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovieb}[4][[]]{%
11   \renewcommand{LWR@moviefifteen@text}{(multimedia)}
12   \setkeys{LWR@moviefifteen}{#1}%
13   \LWR@multimediab[#1,width=#2,height=#3]{LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie){%
17   \beginngroup%
18   \LWR@linkmediacatcodes%
19   \LWR@includemovieb%
20 }
21
22
23 \newcommand*\movieref}[3][[]]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand*\hyperlinkmovie}[3][[]]{

```

---

File 313 **lwarp-mparhack.sty**

§ 422 Package **mparhack**

Pkg mparhack

mparhack is ignored.

**for HTML output:** Discard all options for `lwarp-mparhack`:

```

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```

---

File 314 **lwarp-multibib.sty**

§ 423 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg multibib multibib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]
2 \xpatchcmd{\newcites}
3   {{\@suffix}}
4   {{\@suffix_html}}
5   {}
6   {\LWR@patcherror{multibib}{newcites}}
```

---

File 315 **lwarp-multicap.sty**

§ 424 Package **multicap**

Pkg multicap multicap is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}
```

---

File 316 **lwarp-multicol.sty**

§ 425 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg multicol multicol is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]
```

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolsheading.

The content is placed inside a <div> of class multicols.

Env multicols

```

* {<numcols>} [<heading>]
2 \NewDocumentEnvironment{multicols}{s m o}
```



HTML <div> class to contain everything:

```
3 {
4   \LWR@forcenewpage
5   \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
6   \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7   \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8   \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*\columnbreak{}
12 \newcommand*\newcolumn{}
13 \newcommand*\RLmulticolcolumns{}
14 \newcommand*\LRmulticolcolumns{}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*\columnseprulecolor{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}
29 \NewDocumentCommand{\docolaction}{s o m m}{%
30   \IfValueTF{#2}{#2}{#3}%
31 }
```

---

File 317 **lwarp-multicolrule.sty**

§ 426 Package **multicolrule**

Pkg multicolrule

multicolrule is ignored.

**for HTML output:**

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]
4 \newcommand*\SetMCRule[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

File 318 **lwarp-multimedia.sty**

§ 427 Package **multimedia**

Pkg multimedia

multimedia is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][{}]{
8
9 \newcommand{\hyperlinksound}[3][{}]{
10
```

---

```
11 \newcommand{\hyperlinkmute}
```

---

File 319 **lwarp-multiobjective.sty**

§ 428 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

Pkg multiobjective

multiobjective is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13   \mathchoice%
14     {\displaystyle\boldsymbol{#1}}%
15     {\textstyle\boldsymbol{#1}}%
16     {\scriptstyle\boldsymbol{#1}}%
17     {\scriptscriptstyle\boldsymbol{#1}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21   \mathchoice%
22     {\displaystyle\mathcal{#1}}%
23     {\textstyle\mathcal{#1}}%
24     {\scriptstyle\mathcal{#1}}%
25     {\scriptscriptstyle\mathcal{#1}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\mathrm{arg}}\!,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\!,\min}}
29 }}
30 \end{warpMathJax}
```

---

File 320 **lwarp-multirow.sty**

§ 429 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg multirow

multirow is emulated during HTML output, and used as-is while inside a `LatexImage`.

[vposn](#)

- Note that recent versions of `multirow` include a new optional `vposn` argument.

**multirow cells**

- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

**colored cells**

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

**with `\multicolumn`**

⚠ `\multicolumn & \multirow`

- See section 429.2 for `\multicolumnrow`.

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ **skipped cells**

⚠ **empty cells**

⚠ **MathJax**

- `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

In a `lateximage`, the print versions are restored.

See section 75.24 for the print-mode versions.

**for HTML output:**

Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
```

```
2 \LWR@ProvidesPackagePass{multirow}[2021/03/15]
```

`\LWR@multirowborder`

Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}
```

§ 429.1 **Multirow**`\LWR@multirow@par`

```

\par inside a \multirow.

4 \newcommand*{\LWR@multirow@par}{%
5   \LWR@htmltag{br /}%
6 }%

```

`\multirow`

```

[⟨1: vpos⟩] {⟨2: numrows⟩} [⟨3: bigstruts⟩] {⟨4: width⟩} [⟨5: vmove⟩] {⟨6: text⟩}

```

```

7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
8 {%
9   \LWR@traceinfo{\LWR@HTML@multirow #1 #2 #4}%

```

```

10   \booltrue{\LWR@usedmultirow}%

```

```

11   \LWR@maybe newtable row%
12   \LWR@tabularleftedge%

```

Print the start of a new table data cell:

```

13   \LWR@htmltag{%
14     td rowspan=\textquotedbl#2\textquotedbl\ %

```

A class adds the column spec and the rule:

```

15     class=\textquotedbl{}td%

```

Append this column's spec:

```

16     \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%

```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag. Also add the vertical bar class.

```

17     \LWR@addcmidruletrim%
18     \LWR@addleftmostbartag%
19     \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
20     \textquotedbl%

```

```

21     \LWR@tdstartstyles%

```

The vertical alignment, if given:

```

22     \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:middle}}{%
23     \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:bottom}}{%
24     \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:top}}{%

```

The left/right border, if given:

```

25     \ifdefvoid{\LWR@multirowborder}{}%
26     \LWR@tdaddstyle%
27     \LWR@print@mbbox{border-\LWR@multirowborder:} 2px dotted black ; %
28     \LWR@print@mbbox{padding-\LWR@multirowborder:} 2px%
29     }%

```

Additional style elements:

```

30     \LWR@addcmidrulewidth%
31     \LWR@addcdashline%
32     \LWR@addtabularrulecolors%
33     \LWR@tdendstyles%
34 }%
```

The column's < spec:

```

35 \LWR@getexparray{LWR@colbefore-spec}{\arabic{LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```

36 \begingroup%
37   \LetLtxMacro{\}{\LWR@endofline}%
38   \booltrue{LWR@in@multirow@par}%
39   #6%
40 \endgroup%
41 \LWR@stoppars%
42 \boolfalse{LWR@intabularmetadata}%
43 \renewcommand{\LWR@multirowborder}{}%
44 \LWR@traceinfo{LWR@HTML@multirow done}%
45}%
46
47 \LWR@formatted{multirow}
```

## § 429.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```

48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%

51 \booltrue{LWR@usedmultirow}}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```

52 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.)

```
53 \LetLtxMacro{\}\{LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
55 \LetLtxMacro{\}\{LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
56 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
58 \booltrue{LWR@skipatbang}%
59 }
60
61 \LWR@expandableformatted{multicolumnrow}
62
63 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
66 \CustomizeMathJax{\newcommand{LWRsubmultirow}[2][]{#2}}
67 \CustomizeMathJax{\newcommand{LWRmultirow}[2][]{LWRsubmultirow}}
68 \CustomizeMathJax{\newcommand{\multirow}[2][]{LWRmultirow}}
69 %
70 \CustomizeMathJax{\newcommand{\mrowcell}{}{}}
71 \CustomizeMathJax{\newcommand{\mcolrowcell}{}{}}
72 \CustomizeMathJax{\newcommand{\STneed}[1]{}{}}
73 \end{warpMathJax}
```

---

File 321 **lwarp-multitoc.sty**

§ 430 Package **multitoc**

Pkg multitoc

multitoc is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}{}
```

---

File 322 **lwarp-musicography.sty**

§ 431 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg musicography

musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

for HTML output:

```

1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}

```



```

50
51 \NewDocumentCommand{\LWR@HTML@meterC}{*}{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{*}{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{*}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{*}{\HTMLUnicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][*]{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83   {% ALT text for copy/paste
84     \LetLtxMacro\noFig\LWR@null@noFig%
85     \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86     \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87     \LetLtxMacro\musFlat\LWR@HTML@musFlat%
88     \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89     \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90     {#1}% braces here because \noFig uses []
91   }%
92 ]*%
93   \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}      {}{\HTMLUnicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat} {}{\HTMLUnicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}    {}{\HTMLUnicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLUnicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}  {}{\HTMLUnicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}

```

```

110
111 \NewDocumentCommand{\LWR@HTML@musWhole}      {}{\HTMLUnicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}       {}{\HTMLUnicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}    {}{\HTMLUnicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}     {}{\HTMLUnicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}  {}{\HTMLUnicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
128   {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
130   {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
132   {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
134   {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
136   {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
138   {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
140   {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

File 323 **lwarp-mwe.sty**

§ 432 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg mwe

**mwe** is used as-is, but a warning is issued to copy the images to the local directory.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3   \PackageWarningNoLine{lwarp}{%
4     For package mwe, copy any mwe images to be used for\MessageBreak
5     HTML, such as PNG or JPG, to the document's base\MessageBreak
6     directory. Neither a subdirectory nor the mwe\MessageBreak
7     directory will work, due to the TeX file search\MessageBreak
8     algorithm%

```

```

9   }%
10 }%

```

File 324 **lwarp-nameauth.sty**

§ 433 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg nameauth nameauth is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

Hook [nameauth] lwarp formatting is inserted.

\@nameauth@Hook

```

2 \renewcommand*\@nameauth@Hook[1]
3 {%
4   \if@nameauth@Lock
5     \@nameauth@InHooktrue%
6     \protected@edef\test{#1}%
7     \expandafter\@nameauth@TestDot\expandafter{\test}%
8     \if@nameauth@InAKA
9       \if@nameauth@AlwaysFormat
10      \@nameauth@FirstFormattrue%
11      \else
12        \unless\if@nameauth@AKAFormat
13          \@nameauth@FirstFormatfalse\fi
14      \fi
15      \if@nameauth@MainFormat
16        \if@nameauth@FirstFormat
17          \bgroup\NamesFormat{%
18            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
19          }\egroup%
20        \else
21          \bgroup\MainNameHook{%
22            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
23          }\egroup%
24        \fi
25      \else
26        \if@nameauth@FirstFormat
27          \bgroup\FrontNamesFormat{%
28            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
29          }\egroup%
30        \else
31          \bgroup\FrontNameHook{%
32            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
33          }\egroup%
34        \fi
35      \fi
36    \else
37      \if@nameauth@AlwaysFormat
38        \@nameauth@FirstFormattrue%
39      \fi
40      \if@nameauth@MainFormat
41        \if@nameauth@FirstFormat
42          \bgroup\NamesFormat{%
43            \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp

```

```

44     }\egroup%
45     \else
46     \bgroup\MainNameHook{%
47     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%    lwarp
48     }\egroup%
49     \fi
50     \else
51     \if@nameauth@FirstFormat
52     \bgroup\FrontNamesFormat{%
53     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%    lwarp
54     }\egroup%
55     \else
56     \bgroup\FrontNameHook{%
57     \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%    lwarp
58     }\egroup%
59     \fi
60     \fi
61     \fi
62     \@nameauth@FirstFormatfalse%
63     \@nameauth@InHookfalse%
64     \fi
65 }

```

---

File 325 **lwarp-nameref.sty**

§ 434 Package **nameref**

Pkg nameref

nameref is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-nameref:

```

1 \PackageInfo{lwarp}{%
2 Using the lwarp HTML version of package ‘nameref’,\MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch lwarp’s version of ‘nameref’.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 326 **lwarp-natbib.sty**

§ 435 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg natbib

natbib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```

2 \newcommand{\LWRNB@NAT@open}{$<$}

```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6   \renewcommand{\NAT@open}{\textless}
7   \renewcommand{\NAT@close}{\textgreater}
8 }{}}
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

Synchronize the autopage labels:

```

17 \xpretocmd{\NAT@reset@parser}
18   {\LWR@newautopageLabel{page}}%
19   {}
20   {\LWR@patcherror{natbib}{\NAT@reset@parser}}

```

---

File 327 **lwarp-nccfancyhdr.sty**

§ 436 Package **nccfancyhdr**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfancyhdr

nccfancyhdr is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*{\headrulewidth}{}
3 \newcommand*{\footrulewidth}{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*{\headrule}{}
7 \newcommand*{\footrule}{}
8
9 \newdimen\headwidth
10 \newcommand*{\extendedheaders}{}
11 \newcommand*{\normalheaders}{}
12
13 \newcommand*{\fancyhead}[2][{}]{
14 \newcommand*{\fancyfoot}[2][{}]{
15 \newcommand*{\fancyhf}[2][{}]{
16 \newcommand*{\fancypagestyle}[2]{
17 \newcommand*{\lhead}[2][{}]{

```

```

18 \newcommand*\thead}[2][{}]{
19 \newcommand*\rhead}[2][{}]{
20 \newcommand*\lfoot}[2][{}]{
21 \newcommand*\cfoot}[2][{}]{
22 \newcommand*\rfoot}[2][{}]{
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage}[2]{#2}
31 \newcommand*\ifftopfloat}[2]{#2}
32 \newcommand*\iffbotfloat}[2]{#2}

```

---

File 328 **lwarp-nccfoots.sty**

§ 437 Package **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfoots

nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3   \renewcommand*\Footnote}[1]{}%
4   \renewcommand*\Footnotemark}[1]{}%
5 }{}{}

```



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{\mathrm{#1}}}
8 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
9 \end{warpMathJax}

```

---

File 329 **lwarp-nccmath.sty**

§ 438 Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccmath

nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4

```

```

5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11   \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18   \begingroup
19   \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20   \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21   \boolfalse{LWR@numbereqnarray}
22   \LWR@eqnarrayfactor
23   \endgroup
24
25 }
26
27 \def\eqs{%
28   \ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]{}
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]{}
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \\\]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][\{}{}}
36 \CustomizeMathJax{\newenvironment{ceqn}[\]}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1]{#2}{\end{array}}]}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3][#3]}

```

As of v0.86, MATHJAX v3 does not offer  $\backslash*$ , so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnstar}[1][0.5ex]{\{#1\}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnstar\LWRnrnstar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][\]}

```

$\backslash eq$ ,  $\backslash eqs$ ,  $\backslash eqalign$  are created by L<sup>A</sup>T<sub>E</sub>X, not MATHJAX.

```

52 \end{warpMathJax}

```

---

File 330 **lwarp-needspace.sty**

§ 439 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg needspace

needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

---


File 331 **lwarp-newpxmath.sty**

§ 440 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath

newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from `newtxmath` is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```
18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21

```



---

```
22 \end{warpMathJax}
```

---


File 332 **lwarp-newtxmath.sty**

§ 441 Package **newtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg newtxmath

**newtxmath** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpctxmath:
20 \LWR@mathjax@addgreek@u@it*{}{}
21 \LWR@mathjax@addgreek@l@it{}{}
22
23 % only newtxmath, not newpctxmath:
24 \ifdef{\iftx@BI}{
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```


File 333 **lwarp-newtxsf.sty**

§ 442 Package **newtxsf**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg newtxsf

newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

File 334 **lwarp-nextpage.sty**§ 443 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg nextpage

nextpage is ignored.

**for HTML output:** Discard all options for lwarp-nextpage.

```
1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]
2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

File 335 **lwarp-nfssext-cfr.sty**§ 444 Package **nfssext-cfr**

*(Emulates or patches code by CLEA F. REES.)*

Pkg nfssext-cfr

nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the lwarp core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}

```

```

24 \newrobustcmd{\LWR@HTML@tstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sihape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uihape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rihape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57   \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embosstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}

```

```
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sisshape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{ }{% duplicated by fontaxes
117   \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122   \LetLtxMacro\lnstyle\@empty%
123   \LetLtxMacro\osstyle\@empty%
124   \LetLtxMacro\instyle\@empty%
125   \LetLtxMacro\sustyle\@empty%
126   \LetLtxMacro\swstyle\@empty%
127   \LetLtxMacro\pstyle\@empty%
128   \LetLtxMacro\tistyle\@empty%
129   \LetLtxMacro\ostyle\@empty%
130   \LetLtxMacro\postyle\@empty%
131   \LetLtxMacro\ltstyle\@empty%
132   \LetLtxMacro\ofstyle\@empty%
133   \LetLtxMacro\altstyle\@empty%
134   \LetLtxMacro\regstyle\@empty%
135   \LetLtxMacro\embossstyle\@empty%
136   \LetLtxMacro\ornamentalstyle\@empty%
137   \LetLtxMacro\qtstyle\@empty%
138   \LetLtxMacro\shstyle\@empty%
139   \LetLtxMacro\swashstyle\@empty%
140   \LetLtxMacro\tmstyle\@empty%
141   \LetLtxMacro\tvstyle\@empty%
142   \LetLtxMacro\tstyle\@empty%
```

```

143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\tlstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sisshape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}

```

```

202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\{\LWR@HTML@mbweight\InlineClass{textmb}{#1}\}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\{\LWR@HTML@dbweight\InlineClass{textdb}{#1}\}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{\{\LWR@HTML@sbweight\InlineClass{textsb}{#1}\}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\{\LWR@HTML@ubweight\InlineClass{textub}{#1}\}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\{\LWR@HTML@elweight\InlineClass{textel}{#1}\}}
231 \newrobustcmd{\LWR@HTML@textul}[1]{\{\LWR@HTML@ulweight\InlineClass{textul}{#1}\}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
258 \LWR@formatted{textol}
259 \LWR@formatted{textswash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}

```

```
262 \LWR@formatted{textui}
263 \LWR@formatted{textri}
264 \LWR@formatted{textnw}
265 \LWR@formatted{textcd}
266 \LWR@formatted{textec}
267 \LWR@formatted{textuc}
268 \LWR@formatted{textet}
269 \LWR@formatted{textep}
270 \LWR@formatted{textex}
271 \LWR@formatted{textux}
272 \LWR@formatted{textrw}
273 \LWR@formatted{textmb}
274 \LWR@formatted{textdb}
275 \LWR@formatted{textsb}
276 % \LWR@formatted{texteb}
277 \LWR@formatted{textub}
278 % \LWR@formatted{textlg}
279 \LWR@formatted{textel}
280 \LWR@formatted{textul}
281

282 \FilenameNullify{%
283   \LetLtxMacro\textln\@firstofone%
284   \LetLtxMacro\textos\@firstofone%
285   \LetLtxMacro\textin\@firstofone%
286   \LetLtxMacro\textsu\@firstofone%
287 % \LetLtxMacro\textsi\@firstofone%
288   \LetLtxMacro\textdf\@firstofone%
289   \LetLtxMacro\textsw\@firstofone%
290   \LetLtxMacro\textti\@firstofone%
291   \LetLtxMacro\textlt\@firstofone%
292   \LetLtxMacro\textof\@firstofone%
293   \LetLtxMacro\textalt\@firstofone%
294   \LetLtxMacro\textreg\@firstofone%
295   \LetLtxMacro\emboss\@firstofone%
296   \LetLtxMacro\textorn\@firstofone%
297   \LetLtxMacro\textqt\@firstofone%
298   \LetLtxMacro\textsh\@firstofone%
299   \LetLtxMacro\texttm\@firstofone%
300   \LetLtxMacro\texttv\@firstofone%
301   \LetLtxMacro\textl\@firstofone%
302   \LetLtxMacro\texto\@firstofone%
303   \LetLtxMacro\textp\@firstofone%
304   \LetLtxMacro\textt\@firstofone%
305   \LetLtxMacro\textpl\@firstofone%
306   \LetLtxMacro\textpo\@firstofone%
307   \LetLtxMacro\texttl\@firstofone%
308   \LetLtxMacro\textto\@firstofone%
309   \LetLtxMacro\textol\@firstofone%
310   \LetLtxMacro\textswash\@firstofone%
311   \LetLtxMacro\textu\@firstofone%
312   \LetLtxMacro\textscu\@firstofone%
313   \LetLtxMacro\textui\@firstofone%
314   \LetLtxMacro\textri\@firstofone%
315   \LetLtxMacro\textnw\@firstofone%
316   \LetLtxMacro\textcd\@firstofone%
317   \LetLtxMacro\textec\@firstofone%
318   \LetLtxMacro\textuc\@firstofone%
319   \LetLtxMacro\textet\@firstofone%
320   \LetLtxMacro\textep\@firstofone%
```



```

321 \LetLtxMacro\textex\@firstofone%
322 \LetLtxMacro\textux\@firstofone%
323 \LetLtxMacro\textrw\@firstofone%
324 \LetLtxMacro\textmb\@firstofone%
325 \LetLtxMacro\textdb\@firstofone%
326 \LetLtxMacro\textsb\@firstofone%
327 % \LetLtxMacro\texteb\@firstofone%
328 \LetLtxMacro\textub\@firstofone%
329 % \LetLtxMacro\textlg\@firstofone%
330 \LetLtxMacro\textel\@firstofone%
331 \LetLtxMacro\textul\@firstofone%
332 }
333
334 \providecommand*\zeroslash{}{0}
335 \newrobustcmd*\LWR@HTML@zeroslash{}{0}
336 \LWR@formatted{zeroslash}

```

---

File 336 **lwarp-nicefrac.sty**

§ 445 Package **nicefrac**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg nicefrac

nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@@UnitsNiceFrac}[3][[]]{%
3   {% localize font selection
4     #1{%
5       \LWR@textcurrentfont{%
6         \InlineClass{numerator}{#2}%
7         /%
8         \InlineClass{denominator}{#3}%
9       }%
10    }%
11  }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@@UnitsUglyFrac}[3][[]]{%
17   {% localize font selection
18     #1{\LWR@textcurrentfont{#2/#3}}%
19   }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

**For MATHJAX:**

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{newcommand{\nicefrac}[3][[]]{\mathinner{{}^{\#2}\!/ \!/_{\#3}}}}
25 \end{warpMathJax}

```

---

File 337 **lwarp-niceframe.sty**

§ 446 Package **niceframe**

Pkg niceframe

niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3   \begin{LWR@setvirtualpage}*%
4   \setlength{\LWR@templengthone}{#1}%
5   \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6   #2
7   \end{BlockClass}%
8   \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}
```

---


File 338 **lwarp-nicematrix.sty**

§ 447 Package **nicematrix**

Pkg nicematrix

*(Emulates or patches code by F. PANTIGNY.)*

nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicematrix}[2020/11/23]

NiceTabular must be converted to SVG to support the various nicematrix options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4   \begin{lateximage}[-nicematrix~\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8   \begin{lateximage}[-nicematrix~\PackageDiagramAltText]%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}
```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17   \newenvironment{NiceArray}[2][{}%
18     {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
19     {\end{array}}}%
20 }
21
22 \CustomizeMathJax{%
23   \newcommand{\LWRnicearraywithdelimitwo}[2][{}%
24     {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
25     }%
26 }

```

General case with left / right delimiters:

```

27 \CustomizeMathJax{%
28   \newenvironment{NiceArrayWithDelims}[2]%
29     {%
30       \def\LWRnicearrayrightdelim{\right#2}%
31       \left#1%
32       \LWRnicearraywithdelimitwo%
33     }%
34     {\end{array}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37   \newenvironment{pNiceArray}
38     {\begin{NiceArrayWithDelims}{(}{)}}
39     {\end{NiceArrayWithDelims}}
40 }
41
42 \CustomizeMathJax{%
43   \newenvironment{bNiceArray}
44     {\begin{NiceArrayWithDelims}{[}{]}}
45     {\end{NiceArrayWithDelims}}
46 }
47
48 \CustomizeMathJax{%
49   \newenvironment{BNiceArray}
50     {\begin{NiceArrayWithDelims}{\{}{\}}}}
51     {\end{NiceArrayWithDelims}}
52 }
53
54 \CustomizeMathJax{%
55   \newenvironment{vNiceArray}
56     {\begin{NiceArrayWithDelims}{\vert}{\vert}}
57     {\end{NiceArrayWithDelims}}
58 }
59
60 \CustomizeMathJax{%
61   \newenvironment{VNiceArray}
62     {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}
63     {\end{NiceArrayWithDelims}}

```

64 }

Ignore optional arg and use standard environments:

```
65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}
```

Ignore optional argument and size. Print contents.

```
71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75   \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
76 }
```

Form an approximation:

```
77 \CustomizeMathJax{%
78   \newcommand{\diagbox}[2]{%
79     \begin{array}{L}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80   }%
81 }
```

More approximations:

```
82 \CustomizeMathJax{\let\hdottedline\hdashline}

83 \CustomizeMathJax{\let\Hline\hline}
84
85 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
86 \CustomizeMathJax{\newcommand{\Cdots}[1][\cdots]}
87 \CustomizeMathJax{\newcommand{\Vdots}[1][\vdots]}
88 \CustomizeMathJax{\newcommand{\Ddots}[1][\ddots]}
89 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
90
91 \CustomizeMathJax{\newcommand{\Hdotsfor}[1][\ldots]}
92 \CustomizeMathJax{\newcommand{\Vdotsfor}[1][\vdots]}
```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```
93 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
94 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
98 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
99 \end{warpMathJax}
```

---

File 339 **lwarp-noitcrul.sty**

§ 448 Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

Pkg noitcrul

noitcrul is used as-is for SVG and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}
```

---

File 340 **lwarp-nolbreaks.sty**

§ 449 Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg nolbreaks

nolbreaks is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]
2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}
```

---

File 341 **lwarp-nomencl.sty**

§ 450 Package **nomencl**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

Pkg nomencl

nomencl is patched for use by lwarp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o
<project>_html.nls
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]
```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \def\@@@nomenclature[#1]#2#3{%
3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{%
5 {\string\@nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
6 \begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}%
7 |nompageref}{\theLWR@previousautopagelabel}}% lwarp
8 \endgroup
```

---

```

9 \@esphack}
10
11 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%

```

---

File 342 **lwarp-nonfloat.sty**

§ 451 Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

Pkg nonfloat nonfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}

```

---

File 343 **lwarp-nonumonpart.sty**

§ 452 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 344 **lwarp-nopageno.sty**

§ 453 Package **nopageno**

Pkg nopageno nopageno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

File 345 **lwarp-notes.sty**

§ 454 Package **notes**

Pkg notes notes is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```

2 \newcommand*\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4   {
5     \BlockClass{notes#1}
6     \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}

```

```

7      \BlockClass{notescontents}
8    }
9    {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 346 **lwarp-notespages.sty**

§ 455 Package **notespages**

Pkg notespages

notespages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*\npnotesname{}
3 \newcommand*\npnotestext{}
4 \newcommand*\remainingtextheight{}
5 \newdimen\remainingtextheight
6 \newcommand*\notestitletext{}
7 \newcommand*\notesareatext{}
8 \newcommand*\npnpinfo[1]{}
9 \newcommand*\tracingnmarks{}
10 \newcommand*\notespage[1][1]{}
11 \newcommand*\notespages[1][1]{}
12 \newcommand*\notesfill[1][1]{}
13 \newcommand*\setnotespages[1]{}
14 \newcommand*\definenotesoption[2]{}
15 \newcommand*\definenotesstyle[2]{}
16 \newcommand*\definetitlestyle[2]{}
17 \newcommand*\npnpatchchapter[1]{}
18 \newcommand*\npunpatchchapter{}

```

---

File 347 **lwarp-nowidow.sty**

§ 456 Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

Pkg nowidow

nowidow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nowidow}[2011/09/20]

```

\nowidow      [⟨lines⟩]
\setnowidow  [⟨lines⟩]

2 \newcommand*\nowidow[1][1]{}
3 \newcommand*\setnowidow[1][1]{}

```

```

\noclub          [⟨lines⟩]
\setnoclub      [⟨lines⟩]
4 \newcommand*{\noclub}[1][{}]{
5 \newcommand*{\setnoclub}[1][{}]{

```

File 348 **lwarp-ntheorem.sty**

§ 457 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem

ntheorem is patched for use by lwarp.

Table 20: Ntheorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

### § 457.1 Limitations

⚠ **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

⚠ **Equation numbering** ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option thref is used. lwarp does not share this bug, so equations with \split, etc, are numbered correctly with lwarp's HTML output, but not with the print output. It is recommended to use cleveref instead of ntheorem's thref option.

### § 457.2 Options

Options amsthm or standard choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options thmmarks and amsmath are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option thref is disabled because cleveref functions are used instead. \thref is emulated.

Option hyperref is disabled because lwarp emulated hyperref.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2   \AtEndDocument{
3     \PackageWarningNoLine{lwarp}{%
4       Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5       referencing, including
6       \protect\label \space and \protect\thref.\MessageBreak
7       Cleveref does not accept ntheorem's optional\MessageBreak
8       argument for \protect\label, so it will appear\MessageBreak

```



```

9         in the text. It is recommended to remove the\MessageBreak
10        thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11        and remove any trailing optional arguments for \protect\label%
12        }%
13    }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 457.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{cleveref}{
39 \gdef\@thm#1#2#3{%
40   \if@thmmarks
41     \stepcounter{end\InTheoType ctr}%
42   \fi
43   \renewcommand{\InTheoType}{#1}%
44   \if@thmmarks
45     \stepcounter{curr#1ctr}%
46     \setcounter{end#1ctr}{0}%
47   \fi
48   \refstepcounter[#1]{#2}% <<< cleveref modification
49   \theorem@prework
50   \LWR@forcenewpage% lwarp

51   \LWR@printpendingfootnotes%           lwarp

52   \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
53   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55     \ifthm@inframe
56       \thm@topsep\theoreminframepreskipamount
57     \thm@topsepadd\theoreminframepostskipamount
58     \else
59       \thm@topsep\theorempreskipamount

```

```

60     \thm@topsepadd\theorempostskipamount
61     \fi
62     \else% oldframeskips
63     \thm@topsep\theorempreskipamount
64     \thm@topsepadd \theorempostskipamount
65     \ifvmode\advance\thm@topsepadd\partopsep\fi
66     \fi
67     \@topsep\thm@topsep
68     \@topsepadd\thm@topsepadd
69     \advance\linewidth -\theorem@indent
70     \advance\linewidth -\theorem@rightindent
71     \advance\@totalleftmargin \theorem@indent
72     \parshape \@ne \@totalleftmargin \linewidth
73     \ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
74 }
75 }{% not @ifpackageloaded{cleveref}
76 \gdef\@thm#1#2#3{%
77     \if@thmmarks
78         \stepcounter{end\InTheoType ctr}%
79         \fi
80     \renewcommand{\InTheoType}{#1}%
81     \if@thmmarks
82         \stepcounter{curr#1ctr}%
83         \setcounter{end#1ctr}{0}%
84     \fi
85     \refstepcounter{#2}%
86     \theorem@prework
87     \LWR@forcenewpage% lwarp

88     \LWR@printpendingfootnotes%                lwarp

89     \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
90     \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91     \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92     \ifthm@inframe
93         \thm@topsep\theoreminframepreskipamount
94         \thm@topsepadd\theoreminframepostskipamount
95     \else
96         \thm@topsep\theorempreskipamount
97         \thm@topsepadd\theorempostskipamount
98     \fi
99     \else% oldframeskips
100     \thm@topsep\theorempreskipamount
101     \thm@topsepadd \theorempostskipamount
102     \ifvmode\advance\thm@topsepadd\partopsep\fi
103     \fi
104     \@topsep\thm@topsep
105     \@topsepadd\thm@topsepadd
106     \advance\linewidth -\theorem@indent
107     \advance\linewidth -\theorem@rightindent
108     \advance\@totalleftmargin \theorem@indent
109     \parshape \@ne \@totalleftmargin \linewidth
110     \ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
111 }
112 }
113 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

114 \gdef\theoremstyle#1{%
115   \ifundefined{th@#1}{\@warning
116     {Unknown theoremstyle '#1'. Using 'plain'}}%
117     \theoremstyle{plain}
118     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
119   }%
120   {
121     \theoremstyle{#1}
122     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
123   }
124 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

125
126 \gdef\xnthm#1#2[#3]{%
127   \ifthm@tempif
128     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
129     \expandafter\ifundefined{c@#1}%
130       {\definecounter{#1}}}%
131     \@newctr{#1}[#3]%
132     \expandafter\xdef\csname the#1\endcsname{%
133       \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
134         {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
135     \expandafter\gdef\csname mkheader@#1\endcsname
136       {\csname setparms@#1\endcsname
137         \@thm{#1}{#1}{#2}
138       }%
139     \global\@namedef{end#1}{\@endtheorem}
140     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
141   \fi
142 }
143
144 \gdef\ynthm#1#2{%
145   \ifthm@tempif
146     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
147     \expandafter\ifundefined{c@#1}%
148       {\definecounter{#1}}}%
149     \expandafter\xdef\csname the#1\endcsname
150       {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
151     \expandafter\gdef\csname mkheader@#1\endcsname
152       {\csname setparms@#1\endcsname
153         \@thm{#1}{#1}{#2}
154       }%
155     \global\@namedef{end#1}{\@endtheorem}
156     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
157   \fi
158 }
159
160 \gdef\othm#1[#2]#3{%
161   \ifundefined{c@#2}{\@nocounterr{#2}}%
162   {\ifthm@tempif
163     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
164     \global\@namedef{the#1}{\@nameuse{the#2}}%
165     \expandafter\protected@xdef\csname num@addtheoremline#1\endcsname{%
166       \noexpand\@num@addtheoremline{#1}{#3}}%
167     \expandafter\protected@xdef\csname nonum@addtheoremline#1\endcsname{%
168       \noexpand\@nonum@addtheoremline{#1}{#3}}%
169     \theoremkeyword{#3}%

```

```

170 \expandafter\protected@xdef\csname #1Keyword\endcsname
171     {\the\theoremkeyword}%
172 \expandafter\gdef\csname mkheader@#1\endcsname
173     {\csname setparms@#1\endcsname
174       \@thm{#1}{#2}{#3}
175     }%
176 \global\@namedef{end#1}{\@endtheorem}
177 \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
178 \fi}
179 }

```

#### § 457.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

180 \newcommand{\LWR@intheorem}{%
181 \addtocounter{LWR@thisautoid}{1}%
182 \LWR@stoppars%
183 \LWR@htmltag{%
184   a id=\textquotedbl\LWR@print@mbbox{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmltag{/a}\LWR@orignewline%
187 \LWR@startpars%
188 }

```

#### § 457.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an InlineClass of class theoremheader<style>.

```

189 \gdef\newtheoremstyle#1#2#3{%
190 \expandafter\@ifundefined{th@#1}%
191   {\expandafter\gdef\csname th@#1\endcsname{%
192     \def\@begintheorem####1####2{%
193       \LWR@intheorem% lwarp
194       #2}%
195     \def\@opargbegintheorem####1####2####3{%
196       \LWR@intheorem% lwarp
197       #3}%
198   }%
199 }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
201 }

```

§ 457.6 **Standard styles**

```

202 \renewtheoremstyle{plain}%
203   {\item[
204     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]%
205   {\item[
206     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]]}
207
208 \renewtheoremstyle{break}%
209   {\item[
210     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
211   ]}%
212   {\item[
213     \InlineClass{theoremheaderbreak}%
214     {##1\ ##2\ (##3)\theorem@separator}\newline
215   ]}
216
217 \renewtheoremstyle{change}%
218   {\item[
219     \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]]%
220   {\item[
221     \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]]}
222
223 \renewtheoremstyle{changebreak}%
224   {\item[
225     \InlineClass{theoremheaderchangebreak}%
226     {##2\ ##1\theorem@separator}\newline
227   ]}%
228   {\item[
229     \InlineClass{theoremheaderchangebreak}%
230     {##2\ ##1\ (##3)\theorem@separator}\newline
231   ]}
232
233 \renewtheoremstyle{margin}%
234   {\item[
235     \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
236   ]}%
237   {\item[
238     \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
239   ]}
240
241 \renewtheoremstyle{marginbreak}%
242   {\item[
243     \InlineClass{theoremheadermarginbreak}%
244     {##2 \quad ##1\theorem@separator}\newline
245   ]}%
246   {\item[
247     \InlineClass{theoremheadermarginbreak}%
248     {##2 \quad ##1\ (##3)\theorem@separator}\newline
249   ]}
250
251 \renewtheoremstyle{nonumberplain}%
252   {\item[
253     \InlineClass{theoremheaderplain}{##1\theorem@separator}]]%
254   {\item[
255     \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]]}
256
257 \renewtheoremstyle{nonumberbreak}%
258   {\item[
259     \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline

```

```

260   ]}%
261   {\item[
262     \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
263   ]}
264
265 \renewtheoremstyle{empty}%
266   {\item[]}%
267   {\item[
268     \InlineClass{theoremheaderplain}{##3}]}
269
270 \renewtheoremstyle{emptybreak}%
271   {\item[]}%
272   {\item[
273     \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 457.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
274 \ifbool{LWR@theoremamsthm}{}{%
```

Upright text via CSS:

```

275   \newtheoremstyle{plainupright}%
276   {\item[
277     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
278   {\item[
279     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}

```

Upright text and small caps header via CSS:

```

280   \newtheoremstyle{nonumberplainuprightsc}%
281   {\item[
282     \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
283   {\item[
284     \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]}
285 ]% not amsthm

```

### § 457.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

286 \ifbool{LWR@theoremamsthm}{}{%

287 \ifx\thm@usestd\@undefined
288 \else
289   \theoremnumbering{arabic}
290   \theoremstyle{plain}
291   \RequirePackage{latexsym}
292   \theoremsymbol{\Box}
293   \theorembodyfont{\itshape}
294   \theoremheaderfont{\normalfont\bfseries}
295   \theoremseparator{}
296   \renewtheorem{Theorem}{Theorem}
297   \renewtheorem{theorem}{Theorem}
298   \renewtheorem{Satz}{Satz}
299   \renewtheorem{satz}{Satz}

```

```

300 \renewtheorem{Proposition}{Proposition}
301 \renewtheorem{proposition}{Proposition}
302 \renewtheorem{Lemma}{Lemma}
303 \renewtheorem{lemma}{Lemma}
304 \renewtheorem{Korollar}{Korollar}
305 \renewtheorem{korollar}{Korollar}
306 \renewtheorem{Corollary}{Corollary}
307 \renewtheorem{corollary}{Corollary}
308
309 \theoremstyle{plainupright}
310 \theorembodyfont{\upshape}
311 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
312 \renewtheorem{Example}{Example}
313 \renewtheorem{example}{Example}
314 \renewtheorem{Beispiel}{Beispiel}
315 \renewtheorem{beispiel}{Beispiel}
316 \renewtheorem{Bemerkung}{Bemerkung}
317 \renewtheorem{bemerkung}{Bemerkung}
318 \renewtheorem{Anmerkung}{Anmerkung}
319 \renewtheorem{anmerkung}{Anmerkung}
320 \renewtheorem{Remark}{Remark}
321 \renewtheorem{remark}{Remark}
322 \renewtheorem{Definition}{Definition}
323 \renewtheorem{definition}{Definition}
324
325 \theoremstyle{nonumberplainuprightsc}
326 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
327 \renewtheorem{Proof}{Proof}
328 \renewtheorem{proof}{Proof}
329 \renewtheorem{Beweis}{Beweis}
330 \renewtheorem{beweis}{Beweis}
331 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
332
333 \theoremsymbol{}
334 \fi
335 }% not amsthm

```

## § 457.9 amsthm option

Only if the amsthm option was given:

```

336 \ifbool{LWR@ntheoremamsthm}{
337
338 \gdef\th@plain{%
339 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
340 \def\@begintheorem##1##2{%
341 \LWR@intheorem% lwarp
342 \item[
343 \InlineClass{theoremheaderplain}{##1\ ##2.}
344 ]}%
345 \def\@opargbegintheorem##1##2##3{%
346 \LWR@intheorem% lwarp
347 \item[
348 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
349 ]}}
350
351 \gdef\th@nonumberplain{%
352 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
353 \def\@begintheorem##1##2{%
354 \LWR@intheorem% lwarp

```

```
355     \item[
356 \InlineClass{theoremheaderplain}{##1.}
357     ]}%
358 \def\@opargbegintheorem##1##2##3{%
359     \LWR@intheorem% lwarp
360     \item[
361 \InlineClass{theoremheaderplain}{##1\ (##3).}
362     ]}}
363
364 \gdef\th@definition{%
365 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
366 \def\@begintheorem##1##2{%
367     \LWR@intheorem% lwarp
368     \item[
369 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
370     ]}%
371 \def\@opargbegintheorem##1##2##3{%
372     \LWR@intheorem% lwarp
373     \item[
374 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
375     ]}}
376
377 \gdef\th@nonumberdefinition{%
378 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
379 \def\@begintheorem##1##2{%
380     \LWR@intheorem% lwarp
381     \item[
382 \InlineClass{theoremheaderdefinition}{##1.}
383     ]}%
384 \def\@opargbegintheorem##1##2##3{%
385     \LWR@intheorem% lwarp
386     \item[
387 \InlineClass{theoremheaderdefinition}{##1\ (##3).}
388     ]}}
389
390 \gdef\th@remark{%
391 \def\theorem@headerfont{\itshape}\normalfont%
392 \def\@begintheorem##1##2{%
393     \LWR@intheorem% lwarp
394     \item[
395 \InlineClass{theoremheaderremark}{##1\ ##2.}
396     ]}%
397 \def\@opargbegintheorem##1##2##3{%
398     \LWR@intheorem% lwarp
399     \item[
400 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
401     ]}}
402
403 \gdef\th@nonumberremark{%
404 \def\theorem@headerfont{\itshape}\normalfont%
405 \def\@begintheorem##1##2{%
406     \LWR@intheorem% lwarp
407     \item[
408 \InlineClass{theoremheaderremark}{##1.}
409     ]}%
410 \def\@opargbegintheorem##1##2##3{%
411     \LWR@intheorem% lwarp
412     \item[
413 \InlineClass{theoremheaderremark}{##1\ (##3).}
414     ]}}
```



```

415
416 \gdef\th@proof{%
417   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
418   \def\@begintheorem##1##2{%
419     \LWR@intheorem% lwarp
420     \item[
421       \InlineClass{theoremheaderproof}{##1.}
422     ]}%
423   \def\@opargbegintheorem##1##2##3{%
424     \LWR@intheorem% lwarp
425     \item[
426       \InlineClass{theoremheaderproof}{##1\ (##3).}
427     ]}}
428
429
430
431 \newcounter{proof}%
432 \if@thmmarks
433   \newcounter{currproofctr}%
434   \newcounter{endproofctr}%
435 \fi
436
437 \gdef\proofSymbol{\openbox}
438
439 \newcommand{\proofname}{Proof}
440
441 \newenvironment{proof}[1][\proofname]{
442   \th@proof
443   \def\theorem@headerfont{\itshape}%
444   \normalfont
445   \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
446   \@thm{proof}{proof}{#1}
447 }%
448 {\@endtheorem}
449
450 }{% amsthm option

```

## § 457.10 Ending a theorem

Patched for CSS:

```

451 \let\LWR@origendtheorem\@endtheorem
452 \renewcommand{\@endtheorem}{%
453 \ifbool{LWR@theoremmarks}{%
454   \ifsetendmark%
455   \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456   \setendmarkfalse%
457   \fi%
458 }{%
459 \LWR@origendtheorem% also does \@endtrivlist
460 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{%
461   \LWR@printpendingfootnotes%
462   lwarp
463 }

```

§ 457.11 **\NoEndMark**

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 457.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {<1: printed type>} {<2: #>} {<3: optional>} {<4: page>}
```

```
465 \renewcommand{\thm@thmline@noname}[4]{%
466 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
467 }
468
469 \renewcommand{\thm@thmline@name}[4]{%
470 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
471 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
472 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```
473 \def\listtheorems#1{
474 \LWR@htmlElementclass{nav}{lothm}%
475 \begingroup
476 \c@tocdepth=-2%
477 \def\thm@list{#1}\thm@processlist
478 \endgroup
479 \LWR@htmlElementclassend{nav}{lothm}%
480 }
```

§ 457.13 **Symbols**

Proof QED symbol:

```
481 \newcommand{\qed}{\quad\the\qedsymbol}
482
483 \AtBeginDocument{
484 \@ifundefined{LWR@orig@openbox}{
485 \LetLtxMacro\LWR@orig@openbox\openbox
486 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
487 \LetLtxMacro\LWR@orig@Box\Box
488
489 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
490 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
491 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
492
493 \appto\LWR@restoreorigformatting{%
494 \LetLtxMacro\openbox\LWR@orig@openbox%
495 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
496 \LetLtxMacro\Box\LWR@orig@Box%
497 }% appto
498 }{}% @ifundefined
499 }% AtBeginDocument
```

§ 457.14 **Cross-referencing**

```
\thref {<label>}
```

```
500 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 349 **lwarp-octave.sty**§ 458 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg octave

octave is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% lwarp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }
```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{\}{\HTMLunicode{2032}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15   \pitchfont{%
16     \LWR@textcurrentfont{% lwarp
17       \MakeUppercase{#1}%
18       \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19     }%
20   }%
21 }%
22 \else%
23 {%
24   \pitchfont{%
25     \LWR@textcurrentfont{% lwarp
26       \@GetOctaveTick{#1}[#2]{#3}%
27     }%
28   }%
29 }%
30 \fi%
31 }
```

The original was hard to adapt to lwarp's handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

---

File 350 **lwarp-orcidlink.sty**

§ 459 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

Pkg orcidlink

orcidlink is patched for use by lwarp.

**for HTML output:**

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]
4
5 \renewcommand\orcidlink[1]{%
6   \texorpdfstring%
7     {%
8       \href%
9         {https://orcid.org/#1}%
10        {%
11          \begin{lateximage}[orcid #1]%   lwarp
12            \mbox{%
13              \scalerel*{%
14                \begin{tikzpicture}[yscale=-1,transform shape]
15                  \pic{orcidlogo};
16                  \end{tikzpicture}
17                }{|}%
18              }%
19            \end{lateximage}%   lwarp
20          }%
21        }%
22 }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{} }
26 \end{warpMathJax}


```

File 351 **lwarp-overpic.sty**§ 460 Package **overpic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg overpic

overpic is patched for use by lwarp.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

See section 88.2 for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]
2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6   \begin{lateximage}%
7     \fontsize{\overpicfontsize}{\overpicfontskip}%
8     \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14   \begin{lateximage}%
15     \fontsize{\overpicfontsize}{\overpicfontskip}%
16     \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

File 352 **lwarp-pagegrid.sty**§ 461 Package **pagegrid**

Pkg pagegrid

pagegrid is ignored.

**for HTML output:**

```


1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]
2 \newcommand*\pagegridsetup[1]{}

```

File 353 **lwarp-pagenote.sty**§ 462 Package **pagenote**

Pkg pagenote

pagenote works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**

```
1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]
```

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{{}^{\mathrm{#1}}}}
7 \end{warpMathJax}
```

There is no `\pagenotemark`, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{LWRpagenote}{\pagenotename}}
```

File 354 **lwarp-pagesel.sty**

§ 463 Package **pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]
```

File 355 **lwarp-paralist.sty**

§ 464 Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

Pkg paralist paralist is supported with minor changes.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]
```

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

File 356 **lwarp-parallel.sty**

§ 465 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

Pkg parallel

parallel is emulated.

Package options are ignored. Footnotes are treated as normal lwarp footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

**for HTML output:** Discard all options for `lwarp-parallel`:

```

1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][[%
7   {%
8     \LWR@printpendingfootnotes%
9     \setlength{\linewidth}{\LWR@userstextwidth}%
10    \setlength{\textwidth}{\LWR@userstextwidth}%
11    \renewcommand*{\LWR@parallel@border}{}%
12    \ifstrequal{#1}{v}%
13      {%
14        \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15      }%
16    }%
17  \ifblank{#2}{%
18    \ifblank{#3}{% {}{}
19      \setcounter{LWR@parallel@Lwidth}{45}%
20      \setcounter{LWR@parallel@Rwidth}{45}%
21    }% {}{}
22    {% {}{x}
23      \setlength{\LWR@templengthone}{\linewidth-#3}%
24      \setcounter{LWR@parallel@Lwidth}{%
25        90*\ratio{\LWR@templengthone}{\linewidth}%
26      }%
27      \setcounter{LWR@parallel@Rwidth}{%
28        90*\ratio{#3}{\linewidth}%
29      }%
30    }% {}{x}
31  }% #2 blank
32  {% #2 non-blank
33    \ifblank{#3}{% {}{}
34      \setcounter{LWR@parallel@Lwidth}{%
35        90*\ratio{#2}{\linewidth}%
36    }%

```

```

37         \setlength{\LWR@templengthone}{\linewidth-#2}%
38         \setcounter{LWR@parallel@Rwidth}{%
39             90*\ratio{\LWR@templengthone}{\linewidth}%
40         }%
41     }% {x}{
42     }% {x}{x}
43         \setcounter{LWR@parallel@Lwidth}{%
44             90*\ratio{#2}{\linewidth}%
45         }%
46         \setcounter{LWR@parallel@Rwidth}{%
47             90*\ratio{#3}{\linewidth}%
48         }%
49     }% {x}{x}
50 }% #2 non-blank
51 }
52 {%
53     \ParallelAtEnd%
54     \renewcommand*\ParallelAtEnd{}%
55     \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*\ParallelLText}[1]{%
59     \begin{BlockClass}[%
60         width:\arabic{LWR@parallel@Lwidth}\% ; % space
61         padding: .5ex 1\% ; % space
62     ]{minipage}%
63     #1%
64     \end{BlockClass}%
65 }
66
67 \newcommand*\ParallelRText}[1]{%
68     \begin{BlockClass}[%
69         width:\arabic{LWR@parallel@Rwidth}\% ; % space
70         padding: .5ex 1\% ; % space
71         \LWR@parallel@border%
72     ]{minipage}%
73     #1%
74     \end{BlockClass}%
75 }
76
77 \newcommand*\ParallelPar{\LWR@printpendingfootnotes}
78
79 \newcommand*\ParallelAtEnd{}

```

---

File 357 **lwarp-parcolumns.sty**

§ 466 Package **parcolumns**

*(Emulates or patches code by JONATHAN SAUER.)*

Pkg parcolumns

**parcolumns** is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage,



`\linewidth`, `\textwidth`, and `\textheight` are set for a virtual  $6 \times 9$  inch page, with `\linewidth` divided by the number of columns.

**for HTML output:** Discard all options for `lwarp-parcolumns`:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]
4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13   \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][
20   {%
21     \begin{LWR@setvirtualpage}*[#2]%
22     \setcounter{LWR@parcolumns@numcols}{#2}%
23     \setcounter{LWR@parcolumns@thiscol}{1}%
24     \boolfalse{LWR@parcolumns@started}%
25     \boolfalse{LWR@parcolumns@rule}%
26     \setcounter{LWR@parcolumns@width}{%
27       85/#2
28     }%
29     \setkeys{LWRparcols}{#1}%
30   }
31   {%
32     \colplacechunks%
33     \end{LWR@setvirtualpage}%
34   }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37   \ifbool{LWR@parcolumns@started}%
38     {}%
39     {%
40       \LWR@htmldivclass{parcolumns}%
41       \booltrue{LWR@parcolumns@started}%
42     }%
43   \ifboolexpr{%
44     bool {LWR@parcolumns@rule} and
45     test {%
46       \ifnumgreater
47         {\value{LWR@parcolumns@thiscol}}
48         {1}
49     }%
50   }%
51   {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52   {\renewcommand{\LWR@tempone}{}}%
53   \begin{BlockClass}[%

```

```

54     width:\arabic{LWR@parcolumns@width}\% ; % space
55     padding: .5ex 1\% ; % space
56     \LWR@tempone%
57   ]{minipage}%
58   #1%
59   \end{BlockClass}%
60   \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64   \whilebool{expr{%
65     test {%
66       \ifnumcomp%
67         {\value{LWR@parcolumns@thiscol}}
68         {<}
69         {#1}%
70     }%
71   }{%
72     \LWR@parcolumns@onecol}%
73   }%
74   \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78   \ifbool{LWR@parcolumns@started}%
79   {%
80     \LWR@htmldivclassend{div}%
81     \boolfalse{LWR@parcolumns@started}%
82   }%
83   }%
84   \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 358 **lwarp-parnotes.sty**

§ 467 Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

Pkg parnotes

parnotes is supported with some patches.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]
2 \long\def\PN@parnote@real#1#2{%
3   \parnotemark{#1}%
4   % Unless this is the first parnote in \PN@text, add a separator first
5   \unless\ifx\PN@text\@empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6   % Redefine \@currentlabel to the parnote label, so \label works
7   \g@addto@macro\PN@text{%
8     \phantomsection
9     \def\@currentlabel{#1}%
10    \def\cref@currentlabel{%          lwarp
11      [parnotemark][\arabic{parnotemark}][\theparnotemark%
12    }%
13  }%
14  \g@addto@macro\PN@text{%
15    \LWR@textcurrentfont{%          lwarp

```

```

16         \parnotemark{#1}\nolinebreak\thinspace#2%
17     }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%

```

```

22 \ifPN@inparnotes
23 \else

```

```

24 \LWR@stoppars%

```

Avoid nested paragraphs:

```

25 \addtocounter{LWR@spandepth}{1}%

26 % We call \par later, so this avoids recursion with \PN@parnotes@auto
27 \PN@inparnotestruer
28 % \unless\ifvmode\par\fi
29 % Avoid page breaks between a paragraph and its parnotes
30 % \nopagebreak\addvspace{\parnotevskip}%
31 \begin{BlockClass}(note){footnotes}% lwarp
32 \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

33 {%
34     \parnotefmt{\PN@text}%
35 }%
36 \leavevmode\LWR@orignewline%
37 \end{BlockClass}% lwarp

38 \leavevmode\LWR@orignewline%
39 \global\def\PN@text{%
40 %
41 % These can be enabled or disabled by package options
42 %
43 \PN@disable@indent
44 \PN@reset@optional
45 \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

46 \addtocounter{LWR@spandepth}{-1}%
47 \fi
48 }

49 \newbool{LWR@parnotes@doingauto}
50 \boolfalse{LWR@parnotes@doingauto}

51 \def\PN@parnotes@auto{%
52     \ifbool{LWR@parnotes@doingauto}{
53         \ifx\@currrent\@PN@autopn
54             \unless\ifPN@inparnotes
55                 \unless\ifx\PN@text\@empty
56                 \expandafter\PN@parnotes@real

```

```

57             \fi
58         \fi
59     \fi
60 }{}%
61 }

```

Replace original logic due to the use of new L<sup>A</sup>T<sub>E</sub>X paragraph hook handling:

```

62 \renewenvironment{autopn}%
63     {\booltrue{LWR@parnotes@doingauto}}
64     {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

65 \AtBeginDocument{
66     \ifdef{\crefname}{
67         \crefname{parnotemark}{paragraph note}{paragraph notes}
68         \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
69     }{}
70 }

```

To nullify the footnotes where necessary:

```

71 \apptocmd{\LWR@nullifyfootnotes}{%
72     \renewcommand{\parnote}[2][{}]{}%
73     \renewcommand\parnotemark[1]{}%
74 }{}{}

```

For MATHJAX:

```

75 \begin{warpMathJax}
76 \providecommand{\parnotename}{parnote}
77 \appto\LWR@syncnotenumbers{%
78     \addtocounter{parnotemark}{-1}% specific to parnotes
79     \LWR@syncnotenotenummer{\LWRparnote}{\theparnotemark}%
80     \addtocounter{parnotemark}{1}% specific to parnotes
81 }
82 \appto\LWR@syncnotenames{\LWR@syncnotenotename{\LWRparnote}{\parnotename}}
83 \CustomizeMathJax{\def\LWRparnote{1}}
84 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{{}^{\mathrm{#1}}}}
85 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{{}^{\mathrm{#1}}}}
86 \end{warpMathJax}

```

---

File 359 **lwarp-parskip.sty**

§ 468 Package **parskip**

Pkg parskip

parskip is ignored.

**for HTML output:** Discard all options for `lwarp-parskip`.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 360 **lwarp-pbalance.sty**

§ 469 Package **pbalance**

Pkg pbalance

pbalance is ignored.

**for HTML output:**

```

1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2020/12/16]

4 \newcommand\shrinkLastPage[1]{}
```

---

File 361 **lwarp-pbox.sty**

§ 470 Package **pbox**

Pkg pbox

*(Emulates or patches code by SIMON LAW.)*

pbox is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{ } 0{t} m +m}{%
3 \global\booltrue\LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3][#4]{#5}%
5 }
6
7 \newcommand{\settomewidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 362 **lwarp-pdfcol.sty**

§ 471 Package **pdfcol**

Pkg pdfcol

pdfcol is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7   \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
```

```

9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%

```

---

File 363 **lwarp-pdfcolfoot.sty**

§ 472 Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*\pdfcolfoot@switch{}
4
5 \newcommand*\pdfcolfoot@current{}

```

---

File 364 **lwarp-pdfcolmk.sty**

§ 473 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

```

---

File 365 **lwarp-pdfcolparallel.sty**

§ 474 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

**for HTML output:**

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}

```

Pass options to parallel:

```

4 \DeclareOption*{%
5   \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }

```

Process the options:

```

7 \LWR@ProvidesPackageDropB

```

Require parallel with the given options:

```
8 \RequirePackage{parallel}[2003/04/13]
```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}
```

File 366 **lwarp-pdfcolparcolumns.sty**

§ 475 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to parcolumns:

```
2 \DeclareOption*{%
3   \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}
```

File 367 **lwarp-pdfcomment.sty**

§ 476 Package **pdfcomment**

Pkg pdfcomment pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{ }
3 \newcommand{\pdfcomment}[2][{}]{ }
4 \newcommand{\pdfmargincomment}[2][{}]{ }
5 \newcommand{\pdfmarkupcomment}[3][{}]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]{ }
7 \newcommand{\pdfsquarecomment}[2][{}]{ }
8 \newcommand{\pdfcirclecomment}[2][{}]{ }
9 \newcommand{\pdflinecomment}[2][{}]{ }
10 \newcommand{\pdftooltip}[3][{}]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]{ }
```

```

12 \newcommand{\listofpdfcomments}[1]{}
13 \newcommand{\setliststyle}[1]{}
14 \newcommand{\defineliststyle}[2]{}
15 \newcommand{\defineavatar}[2]{}
16 \newcommand{\definestyle}[2]{}

```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][]{#2}}
20 \end{warpMathJax}

```

---

File 368 **lwarp-pdfcrypt.sty**

§ 477 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}

```

---

File 369 **lwarp-pdflandscape.sty**

§ 478 Package **pdflandscape**

Pkg pdflandscape pdflandscape is ignored.

**for HTML output:** Discard all options for lwarp-pdflandscape:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}[2019/12/05]

```

```

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}

```

---

File 370 **lwarp-pdfmarginpar.sty**

§ 479 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

```

2 \newcommand{\pdfmarginpar}[2]{}
3 \newcommand{\pdfmarginparset}[1]{}

```



---

File 371 **lwarp-pdfpages.sty**

§ 480 Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdfpages

pdfpages is patched for use by lwarp.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagetwist}[false]{}
11 \define@key{pdfpages}{doublepagetwistodd}[false]{}
12 \define@key{pdfpages}{doublepagetwist*}[false]{}
13 \define@key{pdfpages}{doublepagetwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of eso-pic:

```
25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
```

```

29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage

At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the link option was specified, add a hyper target:

```

36   \ifAM@link%
37     \hypertarget{\AM@linkname.\AM@page}{}%
38   \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39   \begingroup%
40   \setlength{\unitlength}{1in}%
41   \begin{picture}(8,10.5)%
42   \ESO@HookIIBG%
43   \end{picture}%
44   \endgroup%
45   \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

\AM@output

Patched to use \LWR@esopic@newpage.

```

48 \xpatchcmd{\AM@output}
49   {\newpage}
50   {\LWR@esopic@newpage}
51   {}
52   {\LWR@patcherror{pdfpages}{AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55   {\newpage}
56   {\LWR@esopic@newpage}
57   {}
58   {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61   {\newpage}
62   {\LWR@esopic@newpage}
63   {}
64   {\LWR@patcherror{pdfpages}{AM@output-3}}

```

\includepdf

Patched to set the user's paper size.

```

65 \xpretocmd{\includepdf}{%
66   \begingroup%
67   \setlength{\paperwidth}{\LWR@userspaperwidth}%
68   \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%

```

```
72   \endgroup%
73 }{}{}
```

`\includepdfmerge`

Patched to set the user's paper size.

```
74 \xpretocmd{\includepdfmerge}{%
75   \begingroup%
76   \setlength{\paperwidth}{\LWR@userspaperwidth}%
77   \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{}}
79
80 \xapptocmd{\includepdfmerge}{%
81   \endgroup%
82 }{}{}}
```

`\AM@hyper@begin@i`Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
83 \renewcommand{\AM@hyper@begin@i}{}
```

---

File 372 **lwarp-pdfprivacy.sty**

§ 481 Package **pdfprivacy**

Pkg pdfprivacy

pdfprivacy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 373 **lwarp-pdfreender.sty**

§ 482 Package **pdfreender**

Pkg pdfreender

pdfreender is allowed during HTML, but it has no effect on HTML text output. pdfreender is enabled for use with `xfakebold`, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. `xfakebold`'s `\setBold` may be used outside of a math expression and still be detected when the math begins.

The `lwarp-pdfreender` package is present because it used to disable pdfreender, so this newer version is to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfreender}[2019/12/29]

---

File 374 **lwarp-pdfsync.sty**

§ 483 Package **pdfsync**

Pkg pdfsync

pdfsync is ignored.

**for HTML output:**

*(Emulates or patches code by J. LAURENS.)*

Discard all options for `lwarp-pdftosync`:

```
1 \LWR@ProvidesPackageDrop{pdftosync}[2008/01/26]

2 \newcommand*\pdftosync{}
3 \newcommand*\pdftosyncstart{}
4 \newcommand*\pdftosyncstop{}
```

---


File 375 **lwarp-pdftricks.sty**

§ 484 Package **pdftricks**

*(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)*

Pkg pdftricks

pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files `<jobname>-fig*.pdf` must be converted to `.svg`, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ `lwarpmk pdftosvg <jobname>-fig*.pdf`

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

```
2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}
```

If the `.pdf` images have not yet been converted to `.svg` then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{%
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

File 376 **lwarp-pdfx.sty**

§ 485 Package **pdfx**

Pkg pdfx

pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

File 377 **lwarp-perpage.sty**

§ 486 Package **perpage**

(Emulates or patches code by DAVID KASTRUP.)

Pkg perpage

**perpage** is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines `\the<countname>` to include `\theperpage`, it is necessary to place that redefinition inside a `warpprint` environment to avoid modifying the HTML definitions.

`\AddAbsoluteCounter` must not be inside `warpprint`, as the counter must be added for HTML also, although it is not incremented.

[footnote numbering](#) To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]
2 \newcommand\AddAbsoluteCounter[1]
3 {
4   \@ifundefined{c@abs#1}{%
5     \expandafter\newcount\csname c@abs#1\endcsname
6     \global\value{abs#1}\@ne
7     \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8     \expandafter\def\csname theabs#1\endcsname{%
9       \noexpand\number \csname c@abs#1\endcsname
10    }%
11   \global\@namedef{c@pabs@#1}{\pp@cl@begin
12     \stepcounter{abs#1}%
13     \pp@cl@end}%
14   \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23   \ifltxcounter{#2Reset}{%
24     \setcounter{#2Reset}{#1}%
```

---

```

25   }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33   \ifltxcounter{#2Reset}{%
34     \setcounter{#2Reset}{#1}%
35   }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}

```

---

File 378 **lwarp-pfnote.sty**

§ 487 Package **pfnote**

Pkg pfnote

pfnote is ignored.

**pfnote** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. **pfnote numbers** lwarp therefore uses continuous footnote numbering even for pfnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 379 **lwarp-phfqit.sty**

§ 488 Package **phfqit**

Pkg phfqit

*(Emulates or patches code by PHILIPPE FAIST.)*

phfqit is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```

2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6   text-decoration: overline underline ;
7 ]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }

```

---

File 380 **lwarp-physics.sty**

§ 489 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

Pkg physics

physics works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 physics extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

2 \begin{warpMathJax}
3 \PackageNoteNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}

```

---

File 381 **lwarp-physicsunits.sty**

§ 490 Package **physicsunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

Pkg physicsunits

physicsunits is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physicsunits}[2020/03/26]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physicsunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][ ]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][ ]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][ ]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][ ]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][ ]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][ ]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][ ]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][ ]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][ ]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][ ]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][ ]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][ ]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][ ]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][ ]{\, \mathrm{#1W}}}

```

```

28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][ ]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][ ]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][ ]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][ ]{\, \mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][ ]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][ ]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][ ]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][ ]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][ ]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][ ]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][ ]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmphs}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][ ]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][ ]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\, ^\circ\mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, ^\circ\mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, ^\circ\mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][ ]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][ ]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][ ]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][ ]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][ ]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```



File 382 **lwarp-picinpar.sty**

§ 491 Package **picinpar**

*(Emulates or patches code by FRIEDHELM SOWA.)*

Pkg picinpar

picinpar is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3   \if #2r%
4     \begin{BlockClass}[float:right](note){marginblock}%
5   \else%
6     \begin{BlockClass}[float:left](note){marginblock}%
7   \fi%
8   #3\par%
9   #4%
10  \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17   \begin{BlockClass}{framebox}
18   \expandafter\box\csname #1box\endcsname%
19   \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23   \begin{BlockClass}{framebox}
24   \expandafter\box\csname #1box\endcsname%
25   \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 %   \advance\c@figure -1
36   \window[#1,#2,{#3},{\def\@capttype{figure}%
37     \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 %   \advance\c@table -1
44   \window[#1,#2,{#3},{\def\@capttype{table}%
45     \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48   \StartDefiningTabulars%
49   \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53   \endwindow%
54   \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 383 **lwarp-pifont.sty**

§ 492 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg pifont

**pifont** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3   \begin{lateximage}*\Pisymbol[pisymbol#1#2]%
4   {\Pifont{#1}\char#2}%
5   \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{
9   \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14   \par\noindent\hspace*{0.5in}
15   \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }

```

---

```
17 \LWR@formatted{Piline}
```

---

File 384 **lwarp-pinlabel.sty**

§ 493 Package **pinlabel**

*(Emulates or patches code by COLIN ROURKE.)*

Pkg pinlabel

pinlabel is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```
2 \xpretocmd{\psfig}
3   {\begin{lateximage}[-pinlabel--\PackageDiagramAltText]}
4   {}
5   {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{pinlabel}{psfigB}}
```

---

File 385 **lwarp-placeins.sty**

§ 494 Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg placeins

placeins is ignored.

Discard all options for lwarp-placeins:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```
2 \newcommand*\FloatBarrier{}
```

---

File 386 **lwarp-plarydshln.sty**

§ 495 Package **plarydshln**

Pkg plarydshln

plarydshln is emulated by lwarp-arydshln.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

```
2 \LWR@origRequirePackage{lwarp-arydshln}
```

---

File 387 **lwarp-plext.sty**

§ 496 Package **plext**

Pkg plext

plext is preloaded by jrtarticle and related classes.

**for HTML output:**

```

1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
13
14 \LetLtxMacro\pccaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
21   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22   {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarp core.

---

File 388 **lwarp-plextarydshln.sty**

§ 497 Package **plextarydshln**

Pkg plextarydshln plextarydshln is emulated by lwarp-arydshln.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 389 **lwarp-plextcolortbl.sty**

§ 498 Package **plextcolortbl**

Pkg plextcolortbl plextcolortbl is emulated by lwarp-colortbl.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{lwarp-colortbl}
```

---

File 390 **lwarp-plimsoll.sty**

§ 499 Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

Pkg plimsoll plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9   {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10  {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}
```

---

File 391 **lwarp-prelim2e.sty**

§ 500 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg prelim2e prelim2e is ignored.

**for HTML output:** Discard all options for lwarp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

File 392 **lwarp-prettyref.sty**§ 501 Package **prettyref***(Emulates or patches code by KEVIN S. RULAND.)*

Pkg prettyref prettyref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

2 \newrefformat{fig}{Figure \ref{#1}}

3 \newrefformat{tab}{Table \ref{#1}}

File 393 **lwarp-preview.sty**§ 502 Package **preview**

Pkg preview preview is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

2 \newenvironment{preview}{}{}

3 \newenvironment{nopreview}{}{}

4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}{}

5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}{}

6 \newcommand{\PreviewSnarfEnvironment}[2][[]]{}


7 \NewDocumentCommand{\PreviewOpen}{s o}{}{}


8 \NewDocumentCommand{\PreviewClose}{s o}{}{}

9 \let\ifPreview\iffalse% \fi for syntax highlighting

File 394 **lwarp-psfrag.sty**§ 503 Package **psfrag***(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)*

Pkg psfrag psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use `lateximage` to encapsulate the image. Always use a psfrags environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]A `lateximage` captures the modified image from the document.

---

```

2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{lateximage}[-psfrags~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}
```

---

File 395 **lwarp-psfragx.sty**

§ 504 Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

Pkg psfragx

psfragx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%
3   \begin{lateximage}[-psfragx~\PackageDiagramAltText]%
4   \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5   \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9   \begin{lateximage}[-psfragx~\PackageDiagramAltText]%
10  \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14   \endpfx@overpix%
15   \end{lateximage}%
16 }
```

---

File 396 **lwarp-pst-eps.sty**

§ 505 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg pst-eps

pst-eps is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][{}]
```

---

File 397 **lwarp-pstool.sty**


§ 506 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool

pstool is patched for use by lwarp.

`\graphicspath` is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk images**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.


```

2 \renewcommand\pstool@alwaysprocess[3][]{%
3   \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
4     \includegraphics{#2.pdf}%
5   \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11   \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
12     \includegraphics{#2.pdf}%
13   \end{lateximage}%
14 }
```

File 398 **lwarp-pstricks.sty**§ 507 Package **pstricks***(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg pstricks

pstricks is patched for use by lwarp.

 **use pspicture** All pstricks content should be contained inside a `pspicture` environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

```

2 \BeforeBeginEnvironment{pspicture}{%
3   \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8   \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```



---

File 399 **lwarp-pxatbegshi.sty**

§ 508 Package **pxatbegshi**

Pkg pxatbegshi pxatbegshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{lwarp-atbegshi}

---

File 400 **lwarp-pxeveryshi.sty**

§ 509 Package **pxeveryshi**

Pkg pxeveryshi pxeveryshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 401 **lwarp-pxfonts.sty**

§ 510 Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg pxfonts pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@L@up[]{}{}up}
8 \end{warpMathJax}
```

---

File 402 **lwarp-pxftnright.sty**

§ 511 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

---

```
2 \LWR@origRequirePackage{lwarp-ftnright}
```

---

File 403 **lwarp-pxjahyper.sty**

§ 512 Package **pxjahyper**

Pkg pxjahyper

pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 404 **lwarp-quotchap.sty**

§ 513 Package **quotchap**

Pkg quotchap

quotchap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/>

[why-is-setlength-ineffective-inside-a-tabular-environment](https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment)

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```

19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }

```

The quotation author is placed inside a <div> of class qauthor:

```

22 \newcommand{\qauthor}[1]{%
23   \LWR@stoppars%
24   \begin{BlockClass}{qauthor}%
25     {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }

```

Fonts are ignored. Use css.

```

29 \newcommand{\qsetcnfont}[1]{}
30 \providecommand*\quotefont{}
31 \providecommand*\qauthorfont{}

```

---

File 405 **lwarp-quoting.sty**

§ 514 Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg quoting

quoting is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

2 \xpatchcmd{\quoting}{\quo@begintext}
3   {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4   {}
5   {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8   {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9   {}
10  {\LWR@patcherror{quoting}{endquoting}}

```

---

File 406 **lwarp-ragged2e.sty**

§ 515 Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg ragged2e

ragged2e is emulated.

Discard all options for lwarp-ragged2e:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft

```

```

4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

---

File 407 **lwarp-realscripts.sty**

§ 516 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg realscripts

realscripts is emulated. See lwarp.css for the `<span>` of class `supsubscript`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

The following are copied verbatim from the original, but given new names, since `xparse` definitions should not be `\let`.

```

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5   \fontspec_if_fontspec_font:TF {
6     \fontspec_if_opentype:TF
7     { \fontspec_if_feature:nTF {+subs}
8       { \addfontfeature{VerticalPosition=Inferior}#1 }
9       { \fontspec_if_feature:nTF {+sinf}
10        { \addfontfeature{VerticalPosition=ScientificInferior}#1 } }
11        { \fakesubscript{#1} }
12      }
13    }
14    { \fontspec_if_aat_feature:nnTF {10} {2}
15      { \addfontfeature{VerticalPosition=Inferior}#1 }
16      { \fakesubscript{#1} }
17    }
18  }
19  { \fakesubscript{#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23   \LWR@HTML@textsubscript{#1}
24 }

```

```

25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30   \fontspec_if_fontspec_font:TF
31   {
32     \fontspec_if_opentype:TF
33     { \fontspec_if_feature:nTF {+sups}
34       { {\addfontfeature{VerticalPosition=Superior}#1} }
35       { \fakesuperscript{#1} }
36     }
37     { \fontspec_if_aat_feature:nnTF {10} {1}
38       { {\addfontfeature{VerticalPosition=Superior}#1} }
39       { \fakesuperscript{#1} }
40     }
41   }
42   { \fakesuperscript{#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46   \LWR@HTML@textsuperscript{#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s 0{l} mm} {
53   \leavevmode
54   \group_begin:
55   \IfBooleanTF #1
56   {
57     \hbox_set:Nn \l_tmpa_box {\textsubscript*{#3}}
58     \hbox_set:Nn \l_tmpb_box {\textsuperscript*{#4}}
59   }
60   {
61     \hbox_set:Nn \l_tmpa_box {\textsubscript{#3}}
62     \hbox_set:Nn \l_tmpb_box {\textsuperscript{#4}}
63   }
64   \hbox_set:Nn \l_tmpa_box
65     { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66   \hbox_set:Nn \l_tmpb_box
67     { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
68   \str_case:nnF {#2}
69   {
70     {l}{\use_i:nnn}
71     {c}{\use_ii:nnn}
72     {r}{\use_iii:nnn}
73   }
74   {
75     \PackageWarning{realscripts}{
76       Unknown~alignment~option~‘#2’. \MessageBreak
77       One~ of~ ‘l’,~ ‘c’,~ ‘r’,~ only
78     }
79     \use_i:nnn
80   }
81   {
82     \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83     \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84     \skip_horizontal:n {

```

```

85     \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
86   }
87 }
88 {
89   \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90   {
91     \skip_horizontal:n {
92       0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93     }
94     \box_use:N \l_tmpb_box
95     \skip_horizontal:n {
96       -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97     }
98     \box_use:N \l_tmpa_box
99   }
100  {
101    \skip_horizontal:n {
102      0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103    }
104    \box_use:N \l_tmpa_box
105    \skip_horizontal:n {
106      -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107    }
108    \box_use:N \l_tmpb_box
109  }
110 }
111 {
112   \skip_horizontal:n {
113     \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114   }
115   \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116   \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123
124 \newcommand*{\LWR@realscriptsalign}{}
125
126 \newcommand*{\LWR@setrealscriptsalign}[1]{%
127   \renewcommand*{\LWR@realscriptsalign}{}%
128   \ifthenelse{\equal{#1}{c}}{%
129     \renewcommand{\LWR@realscriptsalign}{%
130       \LWR@print@inbox{text-align:center} ; %
131     }%
132   }{%
133     \ifthenelse{\equal{#1}{r}}{%
134       \renewcommand{\LWR@realscriptsalign}{%
135         \LWR@print@inbox{text-align:right} ; %
136       }%
137     }{%
138   }
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
141   \LWR@setrealscriptsalign{#2}%
142   \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143     \textsuperscript{#4}\textsubscript{#3}%
144   }%

```

```

145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149   \RenewDocumentCommand{\textsuperscript}{s m}{}%
150   \RenewDocumentCommand{\textsubscript}{s m}{}%
151   \renewcommand{\fakesubscript}[1]{}%
152   \renewcommand{\fakesuperscript}[1]{}%
153   \renewcommand{\realsubscript}[1]{}%
154   \renewcommand{\realsuperscript}[1]{}%
155   \renewcommand{\textsubsuperscript}[2]{}%
156   \renewcommand{\textsupersubscript}[2]{}%
157 }

```

---

File 408 **lwarp-refcheck.sty**

§ 517 Package **refcheck**

Pkg refcheck

refcheck is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*\refcheckxrdoc[2][{}]{

```

---

File 409 **lwarp-register.sty**

§ 518 Package **register**

*(Emulates or patches code by MATTHEW LOVELL.)*

Pkg register

register is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

```

2 \xpatchcmd{\register}
3   {\centering}
4   {%
5     \begin{center}%
6     \begin{lateximage}[-register--\PackageDiagramAltText]%
7   }
8   {}
9   {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12   {\leftskip}
13   {%

```

```

14     \end{lateximage}\end{center}%
15     \leftskip%
16   }%
17   {}
18   {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21   {%
22     \begin{center}%
23     \begin{lateximage}[-register--\PackageDiagramAltText]%
24   }
25   {}
26   {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29   {\leftskip}
30   {%
31     \end{lateximage}\end{center}%
32     \leftskip%
33   }%
34   {}
35   {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

---

File 410 **lwarp-reysize.sty**

§ 519 Package **reysize**

(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)


Pkg reysize

**reysize** is patched for use by **lwarp**, and emulated for **MATHJAX**.

For **HTML**, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\reysize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating **SVG** math for **HTML**, the original definitions are temporarily restored, and so should work as expected.

 **not small** The **HTML** browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{reysize}[2013/03/29]
2 \let\LWR@origreysize\reysize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\reysize\LWR@origreysize%
12 \LetLtxMacro\larger\LWR@origlarger%

```



```

13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*\relsize}[1]{}
23 \renewcommand*\larger}[1][1]{}
24 \renewcommand*\smaller}[1][1]{}
25 \renewcommand*\relscale}[1]{}
26
27 \renewcommand*\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```


---

File 411 **lwarp-repeatindex.sty**

§ 520 Package **repeatindex**

Pkg repeatindex

repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp_repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
  \providecommand*\lettergroupDefault[1]{}
  \providecommand*\lettergroup[1]{%
    \par\textbf{#1}\par
    \nopagebreak
  }

```

```
"
headings_flag 1
heading_prefix "
  \lettergroup{"
heading_suffix "}"
delim_0 "], \hyperindexref{"
delim_1 " , \hyperindexref{"
delim_2 " , \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t "}"

item_0 "\n \item ["
```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

---

File 412 **lwarp-repltext.sty**

§ 521 Package **repltext**

Pkg repltext

repltext is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*\prevrepl{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

---

File 413 **lwarp-resizegather.sty**

§ 522 Package **resizegather**

Pkg resizegather

resizegather is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*\resizegathersetup[1]{} 
```

---

File 414 **lwarp-returntogrid.sty**

§ 523 Package **returntogrid**

Pkg returntogrid returntogrid is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}
```


---

File 415 **lwarp-rlepsz.sty**

§ 524 Package **rlepsz**

*(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)*

Pkg rlepsz rlepsz is patched for use by lwarp.

 **Rename the style file!** The file rlepsz.tex must be copied to rlepsz.sty for lwarp to detect and patch it.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rlepsz}% No date given.

2 \xpretocmd{\relabelbox}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{rlepsz}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{rlepsz}{endrelabelbox}}
```

---

File 416 **lwarp-rmathbr.sty**

§ 525 Package **rmathbr**

*(Emulates or patches code by DENIS RYABOV.)*

Pkg rmathbr rmathbr is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

---

File 417 **lwarp-rmpage.sty**

§ 526 Package **rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 418 **lwarp-romanbar.sty**

§ 527 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg romanbar romanbar is patched for use by lwarp.

An inline class with an overline and underline is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4   text-decoration: overline underline ;
5 ]{romanbar}{#1}%
6 }
```

---

File 419 **lwarp-romanbarpagenumber.sty**

§ 528 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 420 **lwarp-rotating.sty**

§ 529 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]  
2 \RequirePackage{graphicx}

```

3 \LetLtxMacro\LWR@HTML@sidewaystable\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
9 \LWR@formattedenv{sidewaysfigure}
10
11 \newenvironment*{LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption\makecaption
27 \LWR@formatted{@makerotcaption}

```

---

File 421 **lwarp-rotfloat.sty**

§ 530 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg rotfloat

rotfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [ <4: within >]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8   \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11   \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```
15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```
17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }
```

---

File 422 **lwarp-rviewport.sty**

§ 531 Package **rviewport**

Pkg rviewport

`rviewport` is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]
2 \define@key{igraph}{rviewport}{}
```

---

File 423 **lwarp-savetrees.sty**

§ 532 Package **savetrees**

Pkg savetrees

`savetrees` is ignored.

**for HTML output:** Discard all options for `lwarp-savetrees`:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

---

File 424 **lwarp-scalefnt.sty**

§ 533 Package **scalefnt**

Pkg scalefnt

*(Emulates or patches code by D. CARLISLE.)*

`scalefnt` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}
2 \DeclareRobustCommand\scafont[1]{} 
```

---

File 425 **lwarp-scalerel.sty**

§ 534 Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg scalerel

scalerel is used as-is for SVG math, and is emulated and ignored for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2][\#2]}
16 \CustomizeMathJax{\newcommand{\vstretch}[2][\#2]}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2][\#2]}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1][\#1]}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

---

File 426 **lwarp-schemata.sty**

§ 535 Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg schemata

schemata is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6   \begin{lateximage}[-schemata-~\PackageDiagramAltText]%
7     \LWR@print@normalsize%

```

```

8   \LWR@schemata@origschema[#1]{#2}{#3}%
9   \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][Open]{%
13   \begin{lateximage}[-schemata--\PackageDiagramAltText]%
14   \LWR@print@normalsize%
15   \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16   \end{lateximage}%
17 }

```

---

File 427 **lwarp-scrextend.sty**

§ 536 Package **scrextend**

Pkg scrextend

scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

Title page:

```

18 \AtBeginDocument{
19   \let\LWR@koma@orig@maketitle\maketitle
20   \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*\@maketitle{}
24 \renewrobustcmd{\@maketitle}{%
25   \ifdefvoid{\@titlehead}{}{%
26     \begin{BlockClass}{titlehead}%
27     \@titlehead%
28     \end{BlockClass}%
29   }%
30   \ifdefvoid{\@subject}{}{%
31     \begin{BlockClass}{subject}%

```



```

32     \@subject%
33     \end{BlockClass}%
34 }%
35 \LWR@stoppars%
36 \LWR@htmltag{\LWR@tagtitle}%
37 \@title%
38 \LWR@htmltag{\LWR@tagtitleend}%
39 \ifdefvoid{\@subtitle}{}%
40     \begin{BlockClass}{subtitle}%
41     \@subtitle%
42     \end{BlockClass}%
43 }%
44 \LWR@startpars%
45 \begin{BlockClass}{author}%

46 \renewcommand*{\cr}{}%
47 \renewcommand*{\rcrcr}{}%
48 \renewcommand*{\noalign}{}%

49     \renewcommand{\and}{%
50         \end{BlockClass}%
51         \begin{BlockClass}{oneauthor}%
52     }%
53     \begin{BlockClass}{oneauthor}%
54         \@author%
55     \end{BlockClass}%
56 \end{BlockClass}%
57 \begin{BlockClass}{titledate}%
58 \@date%
59 \end{BlockClass}%
60 \ifdefvoid{\@published}{}%
61     \begin{BlockClass}{published}%
62     \@published%
63     \end{BlockClass}%
64 }%
65 }
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}
70 \DeclareDocumentCommand{\frontispiece}{m}{}
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}
83 \DeclareDocumentCommand{\lowertitleback}{m}{}
84 \DeclareDocumentCommand{\dedication}{m}{}
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}

```

```

90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpge}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddpgeusingstyle}{m}{}
94 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpplainpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
99 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}
102
103 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
104   \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
105 }
106
107 \DeclareDocumentCommand{\multfootsep}{}{,}
108
109 \DeclareDocumentCommand{\footref}{m}{%
110   \begingroup
111     \unrestored@protected@xdef\thefnmark{\ref{#1}}%
112   \endgroup
113   \@footnotemark
114 }
115
116 \DeclareDocumentCommand{\deffootnote}{o m m}{}
117 \DeclareDocumentCommand{\deffootnotemark}{m}{}
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
119 \DeclareDocumentCommand{\raggedfootnote}{}{}

120 \DeclareDocumentCommand{\dictum}{o m}{
121   \begin{LWR@BlockClassWP}{\LWR@print@ebox{text-align:right}}{}{\dictum}
122     #2
123     \IfValueT{#1}
124     {
125       \LWR@stoppars%
126       \ifbool{FormatWP}
127         {\begin{BlockClass}[\LWR@print@ebox{border-top:} 1px solid gray]{dictumauthor}}
128         {\begin{BlockClass}{dictumauthor}}
129         \dictumauthorformat{#1}
130       \end{BlockClass}
131     }
132   \end{LWR@BlockClassWP}
133 }
134
135 \DeclareDocumentCommand{\dictumwidth}{}{}
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
137 \DeclareDocumentCommand{\dictumrule}{}{}
138 \DeclareDocumentCommand{\raggeddictum}{}{}
139 \DeclareDocumentCommand{\raggeddictumtext}{}{}
140 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
141
142 \DeclareDocumentEnvironment{labeling}{o m}
143 {%
144   \def\sc@septext{#1}%
145   \list{}{}%
146   \let\makelabel\labelinglabel%
147 }
148 {

```

```

149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \quad \sc@septest%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{} m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166   \begin{BlockClass}[
167     \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
168     \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169   ]{addmargin}
170 }
171 {
172   \setlength{\LWR@templengthone}{#2}
173   \begin{BlockClass}[
174     \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175     \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176   ]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpn {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 428 **lwarp-scrhack.sty**

§ 537 Package **scrhack**

Pkg scrhack

scrhack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 429 **lwarp-scrlayer.sty**

§ 538 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer

scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*\DeclareSectionNumberDepth}[2]{}
3 \newcommand*\DeclareLayer}[2]{}
4 \newcommand*\DeclareNewLayer}[2]{}
5 \newcommand*\ProvideLayer}[2]{}
6 \newcommand*\RedeclareLayer}[2]{}
7 \newcommand*\ModifyLayer}[2]{}
8 \newcommand*\layerhalign{}
9 \newcommand*\layervalign{}
10 \newcommand*\layerxoffset{}
11 \newcommand*\layeryoffset{}
12 \newcommand*\layerwidth{}
13 \newcommand*\layerheight{}
14 \providecommand*\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*\putUL}[1]{}
16 \newcommand*\putUR}[1]{}
17 \newcommand*\putLL}[1]{}
18 \newcommand*\putLR}[1]{}
19 \newcommand*\putC}[1]{}
20 \newcommand*\GetLayerContents}[1]{}
21 \newcommand*\IfLayerExists}[3]{#3}
22 \newcommand*\DestroyLayer}[1]{}
23 \newcommand*\layercontentsmeasure{}
24 \newcommand*\currentpagestyle{}
25 \newcommand*\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\DeclarePageStyleAlias}[2]{}
28 \newcommand*\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\ProvidePageStyleAlias}[2]{}
30 \newcommand*\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\DestroyPageStyleAlias}[1]{}
32 \newcommand*\GetRealPageStyle}[1]{}
33 \newcommand*\DeclarePageStyleByLayers}[3]{}
34 \newcommand*\DeclareNewPageStyleByLayers}[3]{}
35 \newcommand*\ProvidePageStyleByLayers}[3]{}
36 \newcommand*\RedeclarePageStyleByLayers}[3]{}
37 \NewDocumentCommand*\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\AddLayersToPageStyle}[2]{}
39 \newcommand*\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\ModifyLayerPageStyleOptions}[2]{}

```

```

46 \newcommand*\AddToLayerPageStyleOptions}[2]{}
47 \newcommand{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\DestroyRealLayerPageStyle}[1]{}
53 \ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}
58 \if@chapter
59 \newcommand{\chaptermarkformat}{}
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*\@mkleft}[1]{}
64 \newcommand*\@mkright}[1]{}
65 \newcommand*\@mkdouble}[1]{}
66 \newcommand*\@mkboth}[2]{}
67 \newcommand*\sclayerInitInterface}[1][{}]{
68 \newcommand{\sclayerAddToInterface}[3][{}]{
69 \newcommand{\sclayerAddCsToInterface}[3][{}]{
70 \newcommand{\sclayerOnAutoRemoveInterface}[2][{}]{

```

---

File 430 **lwarp-sclayer-notecolumn.sty**

§ 539 Package **sclayer-notecolumn**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg sclayer-notecolumn sclayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sclayer-notecolumn}[2018/02/02]

```

2 \newcommand*\DeclareNoteColumn}[2][{}]{
3 \newcommand*\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*\ProvideNoteColumn}[2][{}]{
5 \newcommand*\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*\syncwithnotecolumn}[1][{}]{
8 \newcommand*\syncwithnotecolumns}[1][{}]{
9 \newcommand*\clearnotecolumn}[1][{}]{
10 \newcommand*\clearnotecolumns}[1][{}]{

```

---

File 431 **lwarp-sclayer-scrpage.sty**

§ 540 Package **sclayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg scrlayer-scrpage

scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*{\defpairofpagestyles}[3][{}]{
28 \newcommand*{\newpairofpagestyles}[3][{}]{
29 \newcommand*{\renewpairofpagestyles}[3][{}]{
30 \newcommand*{\providepairofpagestyles}[3][{}]{

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o m m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o m m m m m m}{}
41 \newcommand*{\defpagestyle}[3]{}
42 \newcommand*{\newpagestyle}[3]{}
43 \newcommand*{\providepagestyle}[3]{}
44 \newcommand*{\renewpagestyle}[3]{}

```

File 432 **lwarp-scrpage2.sty**

§ 541 Package **scrpage2**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg scrpage2

scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*\clearscrheadings{}
40 \newcommand*\clearscrheadfoot{}
41 \newcommand*\clearscrplain{}

```

---

File 433 **lwarp-section.sty**

§ 542 Package **section**

Pkg section

section is ignored.

*(Emulates or patches code by OLIVER PRETZEL.)*

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsiize{\huge}\else
4 \def\chsize{\huge}\def\hdsiize{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\secsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi
```

---

File 434 **lwarp-sectionbreak.sty**

§ 543 Package **sectionbreak**

Pkg sectionbreak

sectionbreak is patched for use by lwarp.

*(Emulates or patches code by MICHAL HOFTICH.)*

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]
```



---

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 435 **lwarp-sectsty.sty**

§ 544 Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

Pkg sectsty

sectsty is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*\partfont [1] {}
3 \newcommand*\partnumberfont [1] {}
4 \newcommand*\parttitlefont [1] {}
5 \newcommand*\chapterfont [1] {}
6 \newcommand*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}
10 \newcommand*\subsubsectionfont [1] {}
11 \newcommand*\paragraphfont [1] {}
12 \newcommand*\subparagraphfont [1] {}
13 \newcommand*\minisecfont [1] {}
14 \newcommand*\allsectionsfont[1] {}
15 \newcommand{\nohang}{}

```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```

16 \newcommand*\sectionrule[5]{}
17
18 \def\ulemheading#1#2{}

```

---

File 436 **lwarp-selectp.sty**

§ 545 Package **selectp**

Pkg selectp

selectp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```

2 \newcommand*\outputonly[1]{}

```

File 437 **lwarp-semantic-markup.sty**

§ 546 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup

semantic-markup is patched for use by lwarp.



If using the endnotes option, add `\theendnotes` where desired.

**for HTML output:** 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```
2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{ }{%
4   \let\footnote=\endnote
5 %   \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi
```

HTML unicode characters from musicography are used.

```
8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural
```

The `\musfig` is placed inside a hashed image, with a simple alt tag.

```
13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16   \LWR@subsingledollar*%
17     {#1/#2}% alt tag
18     {musfig}% addL' hashing
19     {% contents
20       \LWR@origensuredmath{%
21         \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22       }%
23     }%
24 }
```

The `\meter` is taken from musicography, and becomes a hashed image with a simple alt tag.

```
25 \RenewDocumentCommand{\meter}{ m m }{%
26   \musMeter{#1}{#2}%
27 }
```

File 438 **lwarp-seqspl.it.sty**


§ 547 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg seqsplit

seqsplit is patched for use by lwarp.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]

Special handling because lwarp uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*\seqsplit[1]{%
6   \ifmmode%
7     \begin{LWR@print@minipage}{6in}%
8     \LWR@orig@seqsplit{#1}%
9     \end{LWR@print@minipage}%
10  \else%
11    \InlineClass[word-wrap:break-word]{seqsplit}\LWR@orig@seqsplit{#1}}%
12  \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15   \newcommand*\LWR@HTML@seqinsert}{%
16     \LWR@htmlcomment{ }%
17   }
18   \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

---

File 439 **lwarp-setspace.sty**

§ 548 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg setspace

setspace is emulated.

Discard all options for lwarp-setspace:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}

```

---

File 440 **lwarp-shadethm.sty**

§ 549 Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

Pkg shadethm shadethm is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4   \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5   \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6   \begin{BlockClass}[%
7     background: \LWR@origpound\LWR@tempcolor ;
8     border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9   ]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 441 **lwarp-shadow.sty**

§ 550 Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

Pkg shadow shadow is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 442 **lwarp-shapepar.sty**

§ 551 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg shapepar shapepar is patched for use by lwarp. Shapes appear in print mode, as well as inside a `lateximage`, but are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]
2 \newcommand*\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}

```

---

File 443 **lwarp-showidx.sty**

§ 552 Package **showidx**

Pkg showidx

showidx is ignored.

**for HTML output:** Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \@AtBeginDocument by the lwarp core.

---

File 444 **lwarp-showkeys.sty**

§ 553 Package **showkeys**

Pkg showkeys

showkeys is ignored.

**for HTML output:** Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 445 **lwarp-showlabels.sty**

§ 554 Package **showlabels**

Pkg showlabels

showlabels is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]
2 \providecommand{\showlabelfont}{}
3 \providecommand{\showlabelsetlabel}[1]{}
4 \newcommand*\showlabels}[2][{}]{
5 \newcommand*\showlabelrefline}{}
6 \newcommand*\showlabelsinline}{}

```

---

File 446 **lwarp-showtags.sty**

§ 555 Package **showtags**

Pkg showtags

showtags is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{showtags}% no version is given
2 \newcommand{\thecitetag}[1]{}
```

---

File 447 **lwarp-shuffle.sty**

§ 556 Package **shuffle**

Pkg shuffle

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for shuffle may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start}{%
4   \hspace*{.2em}
5   \begin{picture}(.75,0.65)
6     \setlength{\unitlength}{1em}
7     \put(0,0){\line(1,0){.75}}
8     \put(0,0){\line(0,1){.5}}
9     \put(.375,0){\line(0,1){.5}}
10    \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish}{%
14   \end{picture}
15   \hspace*{.75em}
16   \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle}{%
20   \LWR@shuffle@start%
21   \LWR@shuffle@finish%
22 }
23
24 \newcommand*\cshuffle}{%
25   \LWR@shuffle@start%
26   \put(.05,.65){\line(1,0){.65}}%
27   \LWR@shuffle@finish%
28 }
```

```

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32   \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}%
33 }}
34 \end{warpMathJax}

```

---

File 448 **lwarp-sidecap.sty**

§ 557 Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

Pkg sidecap

sidecap is emulated.

**for HTML output:**

Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment> regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCtable}{soo}
3 {\IfValueTF{#3}{\table[#3]}\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCtable*} {\SCtable*}
8 \cs_new_eq:cN {endSCtable*} \endSCtable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 449 **lwarp-sidenotes.sty**

§ 558 Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

Pkg sidenotes

Patched for lwarp.

**for HTML output:**



Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

\sidecaption

```
* [\langle entry \rangle] [\langle offset \rangle] {\langle text \rangle}
2 \RenewDocumentCommand \sidecaption {s o o m}
3 {
4   \LWR@stoppars
5   \begingroup
6   \captionsetup{style=sidecaption}%
7   \IfBooleanTF{#1}
8   { % starred
9     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
10    \caption*{#4}%
11    \end{BlockClass}
12  }
13  { % unstarred
14    \IfNoValueOrEmptyTF{#2}
15    {\def\@sidenotes@sidecaption@tof{#4}}
16    {\def\@sidenotes@sidecaption@tof{#2}}
17    \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
18    \caption[\@sidenotes@sidecaption@tof]{#4}
19    \end{BlockClass}
20  }
21  \endgroup
22  \LWR@startpars
23 }
```

Borrowed from the lwarp version of keyfloat:

```
24 \NewDocumentEnvironment{KFLT sidenotes@marginfloat}{0}{-1.2ex} m}
25 {% start
26   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{\marginblock}%
27   \renewcommand*{\@capttype}{#2}%
28 }
29 {%
30   \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{0}
34 {\begin{KFLT sidenotes@marginfloat}{figure}}
35 {\end{KFLT sidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{marginfigure}{0}
38 {\begin{KFLT sidenotes@marginfloat}{table}}
39 {\end{KFLT sidenotes@marginfloat}}
```

The following were changed by sidenotes, and now are reset back to their lwarp-supported originals:

Restoring the definition from the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> article.cls source:

```
40 \renewenvironment{figure*}
```

```

41          {\dblfloat{figure}}
42          {\enddblfloat}
43
44 \renewenvironment{table*}
45          {\dblfloat{table}}
46          {\enddblfloat}

```

For MATHJAX:



Note that `\sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{\sidenote}
49 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer[LWRsidenote]{\thesidenote}}
50 \appto\LWR@syncnotenames{\LWR@synconenotename[LWRsidenote]{\sidenotename}}
51 \CustomizeMathJax{\def\LWRsidenote{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{{}^{\mathrm{#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{{}^{\mathrm{#1}}}}
```

---

File 450 **lwarp-simplebnf.sty**

§ 559 Package **simplebnf**

*(Emulates or patches code by JAY LEE.)*

Pkg simplebnf

simplebnf is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a `lateximage` whose alt text is the L<sup>A</sup>T<sub>E</sub>X source BNF expression.

```

2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6   %% \l__input_seq is a list of term definitions.
7   \regex_split:nnN { ; ; } { #1 } \l__input_seq
8   \begin{center}
9     \begin{lateximage}[#1]%   lwarp
10      \tl_set:Nn \l__table_tl
11        {
12          \begin{tabular}{lcll}
13          }
14      \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15      \seq_map_inline:Nn \l__input_seq
16        {
17          %% \l__term_seq - (term, rhses)...
18          %% \l__term_tl - term
19          %% \l__keypairs_tl - rhses

```

```

20     \regex_split:nnN { ::= } { ##1 } \l__term_seq
21     \seq_pop_left:NN \l__term_seq \l__term_tl
22     \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24     \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26     \bool_if:NTF \l_tmp_first_term
27     {
28         \bool_set_false:N \l_tmp_first_term
29     }
30     {
31         \tl_put_right:Nn \l__table_tl { \ }
32     }
33     \tl_put_right:Nx \l__table_tl
34     {
35         \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36     }
37     %\l__keypairs_seq - (rhs:annot | rhs)...
38     \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40     \bool_set_true:N \l__first_rhs
41     \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
46 \end{lateximage}%     lwarp
47 \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff

```

---

File 451 **lwarp-SIunits.sty**

§ 560 Package **SIunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

SIunits is patched for use by lwarp.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** `1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]`

Patched for copy/paste with the HTML `alt` tag:

```

2 \ifbool{mathjax}{
3   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4     \LWR@subsingledollar*% lwarp
5     {% alt tag
6       \textbackslashash{unit}%
7       \{\LWR@HTMLsanitizeddetokenized{\detokenize{#1}}\}%
8       \{\LWR@HTMLsanitizeddetokenized{\detokenize{#2}}\}% extra space
9     }%
10    {SIunits}% add'l hashing
11    {%
12      #1\,{#2}%
13    }% contents
14  }
15 }{% not MathJax
16   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
17     \@inunitcommandtrue% original
18     \LWR@subsingledollar*% lwarp
19     {% alt tag
20       \textbackslashash{unit}\{\LWR@HTMLsanitizeddetokenized{\detokenize{#1}}\}%
21       \{\LWR@HTMLsanitizeddetokenized{\detokenize{#2}}\}% extra space
22     }%
23     {SIunits}% add'l hashing
24     {%
25       \LWR@origensuredmath{% lwarp modification
26         \SI@fstyle{%
27           {#1}\@qsk\period@active{#2}%
28         }% original
29       }%
30     }% contents
31     \@inunitcommandfalse% original
32   }
33 }{% not MathJax
34 \LWR@formatted{unit}

```

#### FOR MATHJAX:

```

35 \begin{warpMathJax}
36 \LWR@infoprocessingmathjax{SIunits}
37
38 \CustomizeMathJax{\newcommand{\one}{}}
39 \CustomizeMathJax{\newcommand{\meter}{\metre}}
40 \CustomizeMathJax{\newcommand{\deka}{\deca}}
41 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
42 \CustomizeMathJax{\newcommand{\per}{/}}
43 \CustomizeMathJax{\newcommand{\usk}{\;}}
44 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
45 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
46
47 \AtBeginDocument{%
48   \if@redefsquare
49     \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
50   \else
51     \if@defsquaren
52       \CustomizeMathJax{\newcommand{\square}[1]{\power{#1}{2}}}
53     \else
54       \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
55     \fi %\if@defsquaren
56   \fi %\if@redefsquare
57 } %\AtBeginDocument
58

```

```

59 \CustomizeMathJax{\newcommand{\squared}{^{\{2\}}}
60 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{\#1}{3}}}
61 \CustomizeMathJax{\newcommand{\cubed}{^{\{3\}}}
62 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{\#1}{4}}}
63 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{\#1}{-1}}}
64 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
65 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{\#1}{-2}}}
66 \CustomizeMathJax{\newcommand{\rpsquared}{^{\{-2\}}}
67 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{\#1}{-3}}}
68 \CustomizeMathJax{\newcommand{\rpcubed}{^{\{-3\}}}
69 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{\#1}{-4}}}
70 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
71 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
72 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
73 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
74 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
75 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
76 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
77 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
78 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
79 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
80 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
81 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
82 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
83 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
84 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
85 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
86 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
87 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
88 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
89 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
90 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
91 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
92 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
93 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
94 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
95 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
96 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
97 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
98 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
99 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
100 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
101 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
102 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
103 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
104 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
105 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
106 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
107 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
108 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
109 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
110 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
111 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
112 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
113 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
114 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
115 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
116 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
117 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
118 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}

```

```

119 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
120 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
121 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
122 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
123 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
124 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
125 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
126 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
127 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
128 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
129 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
130 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
131 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
132 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
133 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
134 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
135 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
136 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
137 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
138 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
139 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
140
141 \ifdef{\radianbase}{
142 \CustomizeMathJax{\newcommand{\radianbase}%
143     {\metre\usk\reciprocal\metre}}
144 \CustomizeMathJax{\newcommand{\steradianbase}%
145     {\squaremetre\usk\rpsquare\metre}}
146 \CustomizeMathJax{\newcommand{\hertzbase}%
147     {\reciprocal\second}}
148 \CustomizeMathJax{\newcommand{\newtonbase}%
149     {\metre\usk\kilogram\usk\second\rpsquared}}
150 \CustomizeMathJax{\newcommand{\pascalbase}%
151     {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
152 \CustomizeMathJax{\newcommand{\joulebase}%
153     {\squaremetre\usk\kilogram\usk\second\rpsquared}}
154 \CustomizeMathJax{\newcommand{\wattbase}%
155     {\squaremetre\usk\kilogram\usk\rpcubic\second}}
156 \CustomizeMathJax{\newcommand{\coulombbase}%
157     {\ampere\usk\second}}
158 \CustomizeMathJax{\newcommand{\voltbase}%
159     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
160 \CustomizeMathJax{\newcommand{\faradbase}%
161     {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
162 \CustomizeMathJax{\newcommand{\ohmbase}%
163     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
164 \CustomizeMathJax{\newcommand{\siemensbase}%
165     {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
166 \CustomizeMathJax{\newcommand{\weberbase}%
167     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
168 \CustomizeMathJax{\newcommand{\teslabase}%
169     {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
170 \CustomizeMathJax{\newcommand{\henrybase}%
171     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
172 \CustomizeMathJax{\newcommand{\celsiusbase}%
173     {\kelvin}}
174 \CustomizeMathJax{\newcommand{\lumenbase}%
175     {\candela\usk\squaremetre\usk\rpsquare\metre}}
176 \CustomizeMathJax{\newcommand{\luxbase}%
177     {\candela\usk\squaremetre\usk\rpfourth\metre}}
178 \CustomizeMathJax{\newcommand{\becquerelbase}%

```

```

179     {\hertzbase}}
180 \CustomizeMathJax{\newcommand{\graybase}%
181     {\squaremetre\usk\second\rpsquared}}
182 \CustomizeMathJax{\newcommand{\sievertbase}%
183     {\graybase}}
184 \CustomizeMathJax{\newcommand{\katalbase}%
185     {\rp\second\usk\mole }}
186 }{}
187
188 \ifdef{\derradian}{
189 \CustomizeMathJax{\newcommand{\derradian}%
190     {\metre\usk\reciprocal\metre}}
191 \CustomizeMathJax{\newcommand{\dersteradian}%
192     {\squaremetre\usk\rpsquare\metre}}
193 \CustomizeMathJax{\newcommand{\derhertz}%
194     {\reciprocal\second}}
195 \CustomizeMathJax{\newcommand{\dernewton}%
196     {\metre\usk\kilogram\usk\second\rpsquared}}
197 \CustomizeMathJax{\newcommand{\derpascal}%
198     {\newton\usk\rpsquare\metre}}
199 \CustomizeMathJax{\newcommand{\derjoule}%
200     {\newton\usk\metre}}
201 \CustomizeMathJax{\newcommand{\derwatt}%
202     {\joule\usk\reciprocal\second}}
203 \CustomizeMathJax{\newcommand{\dercoulomb}%
204     {\ampere\usk\second}}
205 \CustomizeMathJax{\newcommand{\dervolt}%
206     {\watt\usk\reciprocal\ampere}}
207 \CustomizeMathJax{\newcommand{\derfarad}%
208     {\coulomb\usk\reciprocal\volt}}
209 \CustomizeMathJax{\newcommand{\derohm}%
210     {\volt\usk\reciprocal\ampere}}
211 \CustomizeMathJax{\newcommand{\dersiemens}%
212     {\ampere\usk\reciprocal\volt}}
213 \CustomizeMathJax{\newcommand{\derweber}%
214     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
215 \CustomizeMathJax{\newcommand{\dertesla}%
216     {\weber\usk\rpsquare\metre}}
217 \CustomizeMathJax{\newcommand{\derhenry}%
218     {\weber\usk\reciprocal\ampere}}
219 \CustomizeMathJax{\newcommand{\dercelsius}%
220     {\kelvin}}
221 \CustomizeMathJax{\newcommand{\derlumen}%
222     {\candela\usk\steradian}}
223 \CustomizeMathJax{\newcommand{\derlux}%
224     {\lumen\usk\rpsquare\metre}}
225 \CustomizeMathJax{\newcommand{\derbecquerel}%
226     {\derhertz}}
227 \CustomizeMathJax{\newcommand{\dergray}%
228     {\joule\usk\reciprocal\kilogram}}
229 \CustomizeMathJax{\newcommand{\dersievert}%
230     {\dergray}}
231 \CustomizeMathJax{\newcommand{\derkatal}%
232     {\katalbase}}
233 }{}
234
235 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
236 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
237 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
238 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}

```

```
239 \CustomizeMathJax{\newcommand{\paminute}{^\prime}}
240 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
241 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
242 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
243 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
245 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
246 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
247 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
248 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
249 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
250 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
251 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
252 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
253 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
254 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
255 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
257 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
258 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
259 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
260 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
261 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
262 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
263 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
264 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
265 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
266 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
267 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
268 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
269 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
270 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second\squared}}
271 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\second\rpsquared}}
272 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
273 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
275 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
277 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
279   \kilogram\usk\squaremetre\per\second%
280 }}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
282   \kilogram\usk\squaremetre\usk\reciprocal\second%
283 }}
284 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
285 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
287 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
288   \squaremetre\usk\rpcubic\metre%
289 }}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
291 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
292 \CustomizeMathJax{\newcommand{\coulombpermole}{\coulomb\per\mole}}
293 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
295 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
297 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
298 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
```



```

299   \squaremetre\per\newton\usk\second%
300 }}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
302   \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
303 }}
304 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
306 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
307 \CustomizeMathJax{\newcommand{\amperepermetresecond}{\ampere\usk\metre\usk\second}}
308 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
309 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
311 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
313 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
314 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
315 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
317 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
319 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
323 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
329 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
331 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
332   \squaremetre\usk\reciprocal\second%
333 }}
334 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
335   \squaremetre\per\second\squared%
336 }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
338   \squaremetre\usk\second\rpsquared%
339 }}
340 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
341   \kilogram\usk\metre\per\second%
342 }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
344   \kilogram\usk\metre\usk\reciprocal\second%
345 }}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
347 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
349 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
350 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
351 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
352 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
353 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
356 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
357   \kilogram\per\squaremetre\usk\second%
358 }}

```

```
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
360   \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
361 }}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
363 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
365 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
367 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
368   \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
369 }}
370 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
371 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
372   \kilogram\usk\kilo\reciprocal\mole%
373 }}
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
376 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
377   \kilogram\usk\metre\per\second\squared%
378 }}
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
380   \kilogram\usk\metre\usk\second\rpsquared%
381 }}
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
383 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
385 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
386   \rpsquare\metre\usk\reciprocal\second%
387 }}
388 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
391 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
392 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
393   \watt\per\squaremetre\usk\steradian%
394 }}
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
396   \watt\usk\rpsquare\metre\usk\rp\steradian%
397 }}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
399 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
400   \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
401 }}
402 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
403 \CustomizeMathJax{\newcommand{\rsquaremetreperkilogram}{%
404   \squaremetre\usk\reciprocal\kilogram%
405 }}
406 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
407 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
408   \cubic\metre\usk\reciprocal\kilogram%
409 }}
410 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
411 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
412 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
414 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
415   \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
416 }}
417 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}
418 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}}
```

```

419 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
420   \squaremetre\per\cubic\second%
421 }}
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
423   \squaremetre\usk\rpcubic\second%
424 }}
425 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
426 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
428 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
429 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
430   \kilogram\per\cubic\metre\usk\coulomb%
431 }}
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
433   \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
434 }}
435 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
436 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
437 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
438   \kilogram\per\second\usk\cubicmetre%
439 }}
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
441   \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
442 }}
443 \end{warpMathJax}

```

---

File 452 **lwarp-siunitx.sty**

§ 561 Package **siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

siunitx is patched for use by lwarp, and is emulated for MATHJAX.

Pkg siunitx

**for HTML output:**

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \RequirePackage{xcolor}% for \convertcolorspec
9
10 \LWR@ProvidesPackagePass{siunitx}[2022-02-15]
11
12 \ExplSyntaxOn

13 \cs_set_protected:Npn \siunitx_number_format:nN #1#2
14 {
15   \group_begin:
16     \bool_if:NTF \l_siunitx_number_parse_bool
17       {
18         \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl
19         \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l__siunitx_number_parsed_tl
20         \tl_set:Nx \l__siunitx_number_outputted_tl
21           { \siunitx_number_output:N \l__siunitx_number_parsed_tl }
22       }

```

```

23     {
24       \tl_set:Nn \l__siunitx_number_outputted_tl
25       {
26         \LWR@subsingledollar{%           lwarp
27           \textbackslash( % space
28           \LWR@HTMLsanitizedetokenized{%
29             \detokenize{#1}%
30           } \textbackslash)%           lwarp
31         }%
32         {siunitx unparsed}%
33         {\ensuremath{#1}}%           lwarp
34       }
35     }
36     \exp_args:NNNV \group_end:
37     \tl_set:Nn #2 \l__siunitx_number_outputted_tl
38   }

39 \cs_set_protected:Npn \__siunitx_compound_unparsed:n #1
40 {
41   \tl_if_blank:nF {#1}
42   { \seq_put_right:Nn \l__siunitx_compound_tmp_seq
43     {
44       \LWR@subsingledollar{%           lwarp
45         \textbackslash( % space
46         \LWR@HTMLsanitizedetokenized{%
47           \detokenize{#1}%
48         } \textbackslash)%           lwarp
49       }%
50       {siunitx unparsed}%
51       {\ensuremath{#1}}%           lwarp
52     }
53   }
54 }

```

If not in a lateximage, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

55 \cs_set_protected:Npn \__siunitx_print_aux:nn #1#2
56 {
57   \tl_if_empty:cTF { l__siunitx_print_ #1 _color_tl }
58   { \use:n }
59   { \exp_args:Nv \textcolor { l__siunitx_print_ #1 _color_tl } }
60   {
61     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%           lwarp
62     {
63       \use:c
64       {
65         siunitx_print_
66         \tl_use:c { l__siunitx_print_ #1 _mode_tl } :n
67       }
68       {#2}
69     }
70     {
71       \bool_lazy_all:nTF%           lwarp
72       {
73         {\l__siunitx_print_text_family_bool}
74         {\l__siunitx_print_text_series_bool}
75         {\l__siunitx_print_text_shape_bool}
76       }
77       {% No font control if reset-text-family/series/shape

```

```

78             \use:c
79             {
80                 siunitx_print_%           lwarp
81                 text%                     lwarp
82                 :n%                       lwarp
83             }%                             lwarp
84             {#2}%                           lwarp
85         }
86     {
87         \LWR@textcurrentfont{%           lwarp
88         \use:c
89         {
90             siunitx_print_%           lwarp
91             text%                     lwarp
92             :n%                       lwarp
93         }%                             lwarp
94         {#2}%                           lwarp
95     }
96 }
97 }
98 }
99 }

```

To determine whether to make a complex root be italic or upright, `\l__siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrm<i/j>`, and the css style is set appropriately.

```

100 \newcommand*{\LWR@siunitx@complexrootstyle}{textrm}
101
102 \newcommand*{\LWR@siunitx@complexrmi}{\mathrm{i}}
103 \newcommand*{\LWR@siunitx@complexrmj}{\mathrm{j}}
104
105 \newcommand*{\LWR@siunitx@setcomplexroot}{%
106     \renewcommand*{\LWR@siunitx@complexrootstyle}{textit}%
107     \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
108         {\renewcommand*{\LWR@siunitx@complexrootstyle}{textrm}}%
109         {}%
110     \ifdefequal{\l__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
111         {\renewcommand*{\LWR@siunitx@complexrootstyle}{textrm}}%
112         {}%
113 }

114 \cs_set_protected:Npn \l__siunitx_complex_format_auxii:n #1
115 {
116     \LWR@siunitx@setcomplexroot%           lwarp
117     \l__siunitx_complex_format_units:n {#1}
118     \tl_if_empty:NF \l__siunitx_complex_real_tl
119     { \exp_after:wN \l__siunitx_complex_drop_exponent:nnnnnn \l__siunitx_complex_real_tl }
120     \exp_after:wN \l__siunitx_complex_format_sign:nnnnnn \l__siunitx_complex_img_tl
121     \tl_set:Nx \l__siunitx_complex_tmp_tl
122     { \siunitx_number_output:NN \l__siunitx_complex_img_tl \q_nil }
123     \exp_after:wN \l__siunitx_complex_extract_exponent:w \l__siunitx_complex_tmp_tl \q_stop
124     \tl_set:Nx \l__siunitx_complex_tmp_tl
125     {
126         \bool_lazy_or:nnTF
127         {
128             \bool_lazy_and:p:nn
129             { \l__siunitx_number_bracket_ambiguous_bool }
130             { ! \tl_if_empty_p:N \l__siunitx_complex_exp_tl }
131         }

```

```

132     {
133     ! \bool_lazy_any_p:n
134     {
135         { \tl_if_blank_p:n {#1} }
136         { \tl_if_empty_p:N \l__siunitx_complex_real_tl }
137         { \tl_if_empty_p:N \l__siunitx_complex_img_tl }
138     }
139     }
140     { \__siunitx_complex_format_bracket:n }
141     { \use:n }
142     {
143     \siunitx_number_output:N \l__siunitx_complex_real_tl
144     \exp_not:V \l__siunitx_complex_sign_tl
145     \bool_if:NF \l__siunitx_complex_root_after_bool
146     {
147         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
148         {
149             \exp_not:V \l__siunitx_complex_output_root_tl
150         }
151     }
152     \exp_not:V \l__siunitx_complex_tmp_tl
153     \bool_if:NT \l__siunitx_complex_root_after_bool
154     {
155         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
156         {
157             \exp_not:V \l__siunitx_complex_output_root_tl
158         }
159     }
160     }
161     \exp_not:V \l__siunitx_complex_exp_tl
162 }
163 }

```

$\langle 1: \text{deg/min/sec character} \rangle \langle 2: ? \rangle \langle 3: ? \rangle \langle 4: \text{integer part of angle} \rangle \langle 5: \text{decimal point character} \rangle \langle 6: \text{decimal part of angle} \rangle \langle 7: ? \rangle \langle 8: ? \rangle$

If not in a lateximage, print a simplified version without the box measurement things which conflict with lwarp:

```

164 \cs_set_protected:Npn \__siunitx_angle_arc_print_auxii:nw
165 #1#2 \q_nil #3 \q_nil #4 \q_nil #5 \q_nil #6 \q_nil #7 \q_nil #8 \q_stop
166 {
167     \mode_if_math:TF
168     { \bool_set_true:N \l__siunitx_angle_tmp_bool }
169     { \bool_set_false:N \l__siunitx_angle_tmp_bool }
170     \siunitx_print_number:n {#2#3#4}
171     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}% lwarp
172     {% lwarp
173         \tl_if_blank:nTF {#6}
174         { \__siunitx_angle_arc_print_auxvi:n {#1} }
175         {
176             \hbox_set:Nn \l__siunitx_angle_marker_box
177             {
178                 \__siunitx_angle_arc_print_auxiii:n
179                 { \siunitx_print_number:n {#5} }
180             }
181             \hbox_set:Nn \l__siunitx_angle_unit_box
182             {
183                 \__siunitx_angle_arc_print_auxiii:n
184                 {

```

```

185         \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
186         \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
187         \skip_horizontal:n { -\scriptspace }
188     }
189 }
190 \dim_compare:nNnTF { \box_wd:N \l__siunitx_angle_marker_box } >
191 { \box_wd:N \l__siunitx_angle_unit_box }
192 {
193     \__siunitx_angle_arc_print_auxiv:NN
194     \l__siunitx_angle_marker_box
195     \l__siunitx_angle_unit_box
196 }
197 {
198     \__siunitx_angle_arc_print_auxiv:NN
199     \l__siunitx_angle_unit_box
200     \l__siunitx_angle_marker_box
201 }
202 \hbox_set_to_wd:Nnn \l__siunitx_angle_marker_box
203 \l__siunitx_angle_tmp_dim
204 {
205     \hbox_overlap_right:n
206     { \box_use_drop:N \l__siunitx_angle_marker_box }
207     \hbox_overlap_right:n
208     { \box_use_drop:N \l__siunitx_angle_unit_box }
209     \tex_hfil:D
210 }
211 \box_use:N \l__siunitx_angle_marker_box
212 \skip_horizontal:N \scriptspace
213 \siunitx_print_number:n {#6}
214 }
215 }%

```

*{<1: deg/min/sec character>} {<2: ?>} {<3: ?>} {<4: integer part of angle>} {<5: decimal point character>} {<6: decimal part of angle>} {<7: ?>} {<8: ?>}*

```

216 {%         lwarp: not in a lateximage, simplify for HTML
217     \tl_if_blank:nTF {#6}
218     { \__siunitx_angle_arc_print_auxvi:n {#1} }
219     {
220         \__siunitx_angle_arc_print_auxiii:n
221         {
222             \siunitx_print_number:n {#5}
223         }
224         \__siunitx_angle_arc_print_auxiii:n
225         {
226             \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
227             \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
228         }
229         \siunitx_print_number:n {#6}
230     }
231 }%         lwarp
232 }

```

If not in a lateximage, print a simple inline fraction, avoiding the use of svg math:

```

233 \cs_set_protected:Npn \__siunitx_print_text_fraction:Nnn #1#2#3
234 {
235     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
236     {%
237         \ensuremath

```

```

238     {
239       #1
240       { \mbox { \__siunitx_print_text_replace:n {#2} } }
241       { \mbox { \__siunitx_print_text_replace:n {#3} } }
242     }
243   }%
244   {%                                     lwarp
245     { \mbox { \__siunitx_print_text_replace:n {#2} } }% lwarp
246     /%                                     lwarp
247     { \mbox { \__siunitx_print_text_replace:n {#3} } }% lwarp
248   }%   lwarp
249 }

```

If not in a lateximage, print a \textsubscript:

```

250 \cs_set_protected:Npn \__siunitx_unit_format_qualifier_subscript:
251 {
252   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%   lwarp
253   {%
254     \__siunitx_unit_format_font:
255     \tl_set:Nx \l__siunitx_unit_part_tl
256     {
257       \c__siunitx_unit_math_subscript_tl
258       {
259         \exp_not:V \l__siunitx_unit_font_tl
260         { \exp_not:V \l__siunitx_unit_part_tl }
261       }
262     }
263   }
264   {%   lwarp simplified for HTML:
265     \__siunitx_unit_format_font:
266     \tl_set:Nx \l__siunitx_unit_part_tl
267     {
268       \textsubscript
269       {
270         \exp_not:V \l__siunitx_unit_font_tl
271         { \exp_not:V \l__siunitx_unit_part_tl }
272       }
273     }
274   }
275 }

276 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
277 {
278   \group_begin:
279     \siunitx_unit_options_apply:n {#2}
280     \tl_if_blank:nTF {#1}
281     {
282       \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
283       \siunitx_print_unit:V \l__siunitx_quantity_unit_tl
284     }
285     {
286       \bool_if:NTF \l__siunitx_number_parse_bool
287       { \__siunitx_quantity_parsed:nn {#1} {#2} }
288       {
289         \tl_set:Nn \l__siunitx_quantity_number_tl {
290           \LWR@subsingledollar{%   lwarp
291             \textbackslash( % space
292             \LWR@HTMLsanitizedetokenized{%
293             \detokenize{#1}%

```



```

294         } \textbackslash)%          lwarp
295     }%
296     {siunitx unparsed}%
297     {\ensuremath{#1}}%          lwarp
298 }
299 \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
300 \siunitx_quantity_print:VV
301 \l__siunitx_quantity_number_tl \l__siunitx_quantity_unit_tl
302 }
303 }
304 \group_end:
305 }

```

`\cancel` for HTML does not work yet.

```

306 \newcommand*{\LWR@siunitx@nocancel}[1]{%
307   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
308     {\cancel{#1}}% SVG
309     {#1}% HTML
310 }
311
312 \AtBeginDocument{
313   \__siunitx_unit_set_symbolic:Npnn \cancel
314   { }
315   { \__siunitx_unit_parse_special:n { \cancel } }
316   { \__siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }% lwarp
317 }

```

For HTML, use a simple unaligned `\num`:

```

318 \newcommand{\LWR@HTML@tablenum}[2][\num{#1}{#2}]
319 \LWR@formatted{tablenum}

```

For HTML, the S column is simplified to a c column. Keys are set locally, allowing drop-exponent, etc.

```

320 \AtBeginDocument{
321 \HTMLnewcolumnntype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
322 }

```

To define simplified units for HTML:

`\HTMLDeclareSIUnit` [*options*] {*name*} {*definition*}

```

323 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
324 {
325   \ifcsdef{__siunitx_unit_ \token_to_str:N #2 :w }
326     {}
327     {
328       \PackageError{lwarp}
329         {%
330           First~use~\MessageBreak
331             \space\space\protect\DeclareSIUnit{
332               \token_to_str:N#2}{...}\MessageBreak
333             before~using~\MessageBreak
334               \space\space\protect\HTMLDeclareSIUnit{
335                 \token_to_str:N#2}{...}%
336             }

```

```

337             {%
338             See~the~Lwarp~manual~section~about~special~cases,~
339             regarding~siunitx.%
340             }
341         }
342     \csNewCommandCopycs
343     { __orig_siunitx_unit_ \token_to_str:N #2 :w }
344     { __siunitx_unit_ \token_to_str:N #2 :w }
345     \DeclareSIUnit[#1]{#2}
346     {
347         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
348         {\csuse{ __orig_siunitx_unit_ \token_to_str:N #2 :w }}
349         {#3}
350     }
351 }

352 \ExplSyntaxOff

```

#### HTML versions for existing units:

```

353 \AtBeginDocument{
354 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
355 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
356 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
357 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
358 %
359 \HTMLDeclareSIUnit\clicht{\text{\textit{c}}\textsubscript{0}}
360 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\textsubscript{0}}
361 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\textsubscript{e}}
362 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\textsubscript{h}}
363 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
364 }% \AtBeginDocument

```

#### Initial options:

```

365 \AtBeginDocument{
366 \sisetup{
367     per-mode=symbol, % fraction is not seen by pdftotext
368     angle-symbol-degree = {\LWR@siunitx@textdegree},
369     angle-symbol-minute = {\LWR@siunitx@textprime} ,
370     angle-symbol-second = {\LWR@siunitx@textdblprime} ,
371 }
372 }

```

#### Load late patches for lltjp-siunitx:

```

373 \AtBeginDocument{
374 \ifdef{\ltj@allalchar}
375     {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
376     {}
377 }

```

#### For MATHJAX:

```

378 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
379
380 \CustomizeMathJax{\let\unit\si}
381 \CustomizeMathJax{\let\qty\SI}
382 \CustomizeMathJax{\let\qtyList\SIlist}

```

```

383 \CustomizeMathJax{\let\qtyrange\SIrange}
384 \CustomizeMathJax{\let\numproduct\num}
385 \CustomizeMathJax{\let\qtyproduct\SI}
386 \CustomizeMathJax{\let\complexnum\num}
387 \CustomizeMathJax{\newcommand{\complexqty}[3][][\complexnum{#2})\si{#3}}}
```

Pass range-phrase to common-mathjax-siunitx:

```

388 \ExplSyntaxOn
389 \AtBeginDocument{
390 \edef\LWR@siunitx@rangephrase{\l_siunitx_range_phrase_tl}
391 \expandafter\CustomizeMathJax\expandafter{%
392   \expandafter\def\expandafter\LWRsiunitxrangephrase%
393   \expandafter{\LWR@siunitx@rangephrase}%
394 }
395 }
396 \ExplSyntaxOff
```

---

File 453 **lwarp-siunitx-v2.sty**

§ 562 Package **siunitx-v2**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg siunitx-v2

siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

\cancel is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use \tablenum for each cell. This is especially required for

 **drop-exponent**

drop-exponent, without which the value will be shown incorrectly.

 **table-auto-round**

table-auto-round is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

`\DeclareSIUnit`


`{\langle name \rangle} {\langle definition \rangle}`

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

`\HTMLDeclareSIUnit`

`{\langle name \rangle} {\langle definition \rangle}`

 **v3 only!** Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX boxes` or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, lwarp has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

 **MathJax**

#### Document modifications required for MATHJAX

 `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

 **complex numbers**

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

**custom units**

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

 **unit spacing**

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **MATHJAX option**, section 8.7.5.

for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[=v2]% 2021-04-17

4 \AtBeginDocument{% in case textcomp was not loaded
5   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumntype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
14 \HTMLnewcolumntype{s}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
15 }
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```
16
17 \ExplSyntaxOn
18 %
```

Modified to use the print version of `\@ensuredmath` to avoid having a `lateximage` each time.

```
19 \AtBeginDocument{
20 \cs_set_protected:Npn \__siunitx_print_text:
21 {
22   \LetLtxMacro\@ensuredmath\LWR@origensuredmath%          lwarp
23   \tl_replace_all:Nnn \l__siunitx_print_arg_tl { - }
24     { \textminus }
25   \__siunitx_print_text_aux:
26   \tl_replace_all:Nnn \l__siunitx_print_arg_tl { \mp }
27     { \ensuremath { \mp } }
28   \tl_remove_all:Nn \l__siunitx_print_arg_tl { \mathord }
29   \cs_set_eq:NN \PrintSubscript \__siunitx_print_text_sub:n
30   \cs_set_eq:NN \PrintSuperscript \__siunitx_print_text_super:n
31   \__siunitx_print_text_aux:NnN
```

```

32   _ { math_subscript }   \__siunitx_print_text_sub:n
33   _ { active }          \__siunitx_print_text_sub:n
34   ^ { math_superscript } \__siunitx_print_text_super:n
35   ^ { active }          \__siunitx_print_text_super:n
36   \q_recursion_tail ? ?
37   \q_recursion_stop
38   \l__siunitx_print_arg_tl
39 }
40 }

```

Modified to set set HTML \textcolor if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@__siunitx_print_aux:
42 {
43   \text
44   {
45     \__siunitx_ensure_ltr:n
46     {
47       \color@begingroup
48 %
49       \__siunitx_print_color:
50       \__siunitx_font_shape:
51       \__siunitx_font_weight:
52       \use:c
53       {
54         __siunitx_ \l__siunitx_print_type_tl _
55         text \l__siunitx_font_family_tl :
56       }
57 %
58 %       \bool_if:NTF \l__siunitx_font_math_mode_bool
59 %       {
60 %         \__siunitx_print_math:
61 %       }
62 %       {
63 %         \LWR@findcurrenttextcolor% lwarp
64 %         \ifdefstring{\LWR@tempcolor}{000000}% lwarp
65 %         { \__siunitx_print_text:}% lwarp
66 %         {% lwarp
67 %           \LWR@textcurrentcolor{% lwarp
68 %             \__siunitx_print_text:
69 %           }% lwarp
70 %         }% lwarp
71 %       }
72 %       \color@endgroup
73 %     }
74 %   }
75 % }
76 \LWR@formatted{__siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@__siunitx_set_math_fam:n #1 {
79   \group_begin:
80 %   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
81 %   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
82 %   \hbox_set:Nn \l__siunitx_tmp_box
83 %   {
84 %     \ensuremath
85 %     {
86 %       \use:c { math #1 }
87 %     }

```

```

88             \int_const:cn { c__siunitx_math #1 _int } { \fam }
89         }
90     }
91 %     }
92 \group_end:
93 }
94 \LWR@formatted{__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97 %
98     \group_begin:% lwarp
99     \bool_if:NTF \l__siunitx_number_parse_bool
100    {
101        \tl_clear:N \l__siunitx_number_out_tl
102        \bool_set_false:N \l__siunitx_number_compound_bool
103        \__siunitx_number_output_parse:n {#1}
104    }
105    {

```

For parse-numbers=false:

```

106        \__siunitx_unit_output_pre_print:
107        \begingroup%                               lwarp
108            \boolfalse{mathjax}%                   lwarp
109 %        \__siunitx_print:nn { number } { \ensuremath {#1} }
110            \LWR@subsingledollar%                 lwarp
111                {% alt text
112                    \textbackslash( % space
113                        \LWR@HTMLsanitizedetokenized{%
114                            \detokenize{#1}}%
115                    } \textbackslash)%             lwarp
116                }
117                {siunitx}% addl hashing
118                {%
119                    \__siunitx_print:nn { number } {%
120                        \LWR@origensuredmath{#1}}%
121                    }%
122                }%                                 lwarp
123            \endgroup%                               lwarp
124        \__siunitx_unit_output_print:
125    }
126 \group_end:% lwarp
127 %
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131 {
132     \bool_if:NTF \l__siunitx_number_parse_bool
133     {
134         \tl_clear:N \l__siunitx_number_out_tl
135         \tl_clear:N \l__siunitx_number_out_saved_tl
136         \bool_set_false:N \l__siunitx_number_compound_bool
137         \__siunitx_number_output_parse:n {#1}
138         \bool_if:NT \l__siunitx_number_compound_bool
139         { \msg_error:nxx { siunitx } { multi-part-range } {#1} }
140     }
141     {

```

```

142     \__siunitx_unit_output_pre_print:
143     \begingroup%     lwarp
144         \boolfalse{mathjax}%     lwarp
145     \__siunitx_print:nn { number } {#1}
146         \LWR@subsingledollar%     lwarp
147         {% alt text
148             \textbackslash( % space
149             \LWR@HTMLsanitizedetokenized{%
150                 \detokenize{#1}%
151             } \textbackslash)%     lwarp
152         }%
153         {siunitx}% addl hashing
154         {%
155             \__siunitx_print:nn { number } {%
156                 \LWR@origensuredmath{#1}%
157             } %     lwarp
158         }%     lwarp
159     \endgroup%     lwarp
160     \__siunitx_unit_output_print:
161 }
162 }
163 \LWR@formatted{__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_direct_aux:nn #1#2 {
165     \tl_if_empty:nF {#1}
166     {
167         \tl_set:Nn \l__siunitx_unit_tl {#2}
168         \begingroup%     lwarp
169             \boolfalse{mathjax}%     lwarp
170     \__siunitx_print:nn { number } {#1}
171         \LWR@subsingledollar{%     lwarp
172             \textbackslash( % space
173             \LWR@HTMLsanitizedetokenized{%
174                 \detokenize{#1}%
175             } \textbackslash)%     lwarp
176         }%
177         {siunitx}%
178         {%
179             \__siunitx_print:nn { number } {
180                 \LWR@origensuredmath{#1}%
181             }%     lwarp
182         }%     lwarp
183     \endgroup%     lwarp
184     \__siunitx_unit_output_print:
185     }
186 }
187 \LWR@formatted{__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_quotient_fraction: {
190     \bool_set_true:N \l__siunitx_number_compound_bool
191     \__siunitx_number_output_quotient_aux_i:
192     \tl_set_eq:NN \l__siunitx_number_out_tl
193         \l__siunitx_number_numerator_tl
194     \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
195     \tl_put_right:NV \l__siunitx_number_out_tl

```



```

196 \l__siunitx_number_denominator_tl
197 \__siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{__siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_format_fraction_fraction: {
201 \__siunitx_unit_format_fraction_symbol_aux:
202 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
203 {
204 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
205 {
206 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
207 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
208 }
209 }
210 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
211 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
212 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{__siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_astronomy_aux: {
216 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
217 \l__siunitx_tmpa_tl
218 { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
219 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
220 {% lateximage
221 \hbox_set:Nn \l__siunitx_angle_marker_box
222 {
223 \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
224 }
225 \hbox_set:Nn \l__siunitx_angle_unit_box
226 {
227 \__siunitx_print:nV { unit } \l__siunitx_unit_tl
228 \skip_horizontal:n { -\scriptspace }
229 }
230 \__siunitx_angle_print_astronomy_aux:n { marker }
231 \__siunitx_angle_print_astronomy_aux:n { unit }
232 \hbox_set:Nn \l__siunitx_angle_marker_box
233 {
234 \box_use:N \l__siunitx_angle_marker_box
235 \box_use:N \l__siunitx_angle_unit_box
236 }
237 \dim_compare:nNnTF
238 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
239 { \__siunitx_angle_print_astronomy_marker: }
240 { \__siunitx_angle_print_astronomy_unit: }
241 }% lateximage
242 {% not a lateximage
243 \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
244 \__siunitx_print:nV { unit } \l__siunitx_unit_tl
245 }% not a lateximage
246 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
247 \l__siunitx_tmpa_tl
248 { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
249 }
250 \LWR@formatted{__siunitx_angle_print_astronomy_aux:}

```

```

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {\textsuperscript{#1}}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

```

\LWR@origenduresmath is added here in case the user asks for  $\mathrm$ , etc. for output-exponent-marker.

```

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260   \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261   \l__siunitx_tmpa_tl
262   \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263     {
264       \tl_set:Nx \l__siunitx_tmpa_tl
265         { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266       \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267     }
268     {
269       \tl_set:Nx \l__siunitx_tmpa_tl
270         {
271           \LWR@origensuredmath{%   lwarp
272             \exp_not:V \l__siunitx_output_exponent_tl
273             }%   lwarp
274           \exp_not:N \mathord
275           \exp_not:V \l__siunitx_tmpa_tl
276         }
277     }
278   \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279   \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283   \__siunitx_number_format_brackets:n { mantissa }
284   \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285   \l__siunitx_tmpa_tl
286   \tl_if_empty:NT \l__siunitx_output_exponent_tl
287     {
288       \tl_put_right:Nx \l__siunitx_tmpa_tl
289         {
290           \exp_not:N \LWR@origensuredmath%   lwarp
291           {
292             \bool_if:NTF \l__siunitx_tight_bool
293               { { \exp_not:V \l__siunitx_exponent_product_tl } }
294               { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295           }
296         }
297     }
298   \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299   \l__siunitx_tmpb_tl
300   \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301   \prop_put:NnV \l__siunitx_number_out_prop { result }

```

```

302 \l__siunitx_tmpa_tl
303 \prop_put:Nnn \l__siunitx_number_out_prop
304 { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308   \bool_if:NTF \l__siunitx_multi_repeat_bool
309     {
310       \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
311       {
312         \__siunitx_number_output_parts_aux:n { mantissa }
313         \__siunitx_number_output_parts_aux:n { complex }
314       }
315       \prop_get:NnNT \l__siunitx_number_out_prop { exponent-result }
316       \l__siunitx_tmpa_tl
317       {
318         \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
319         {
320           \tl_put_left:Nx \l__siunitx_tmpa_tl
321           {
322             \exp_not:N \LWR@origensuredmath
323             {
324               \bool_if:NTF \l__siunitx_tight_bool
325                 { { \exp_not:V \l__siunitx_exponent_product_tl } }
326                 { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
327             }
328           }
329           \prop_put:NnV \l__siunitx_number_out_prop { exponent }
330           \l__siunitx_tmpa_tl
331         }
332         \__siunitx_number_output_parts_print:n { exponent }
333       }
334     }
335     { \__siunitx_number_output_single: }
336 }
337 \LWR@formatted{__siunitx_number_output_parts_aux:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339   \int_compare:nNnF { \l__siunitx_unit_prefix_int } = { 0 }
340   {
341     \tl_set:Nx \l__siunitx_tmpa_tl
342     {
343       \bool_if:NTF \l__siunitx_tight_bool
344       {
345         \exp_not:N \LWR@origensuredmath% \lwrap
346         { { \exp_not:V \l__siunitx_exponent_product_tl } }
347       }
348       {
349         \exp_not:N \LWR@origensuredmath% \lwrap
350         { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
351       }
352       \int_use:N \l__siunitx_unit_prefix_base_int
353       ^ { \int_use:N \l__siunitx_unit_prefix_int }

```

```

354     }
355     \__siunitx_print:nV { number } \l__siunitx_tmpa_tl
356   }
357   \tl_if_empty:NF \l__siunitx_unit_tl
358   {
359     \__siunitx_unit_output_number_sep:
360     \__siunitx_print:nV { unit } \l__siunitx_unit_tl
361   }
362 }
363 \LWR@formatted{__siunitx_unit_output_print:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365 {
366   \bool_if:NT \l__siunitx_process_fixed_bool
367   {
368     \tl_set_eq:NN \l__siunitx_tmpa_tl \l__siunitx_exponent_product_tl
369     \bool_if:NT \l__siunitx_tight_bool
370     {
371       \tl_set:Nx \l__siunitx_tmpa_tl
372       { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpa_tl }
373     }
374     \tl_set:Nx \l__siunitx_tmpa_tl
375     {
376       \exp_not:N \LWR@origensuredmath { %      lwarp
377         { } \exp_not:o \l__siunitx_tmpa_tl { }
378       }
379       10 \exp_not:N \PrintSuperscript
380       { \int_use:N \l__siunitx_process_fixed_int }
381     }
382     \__siunitx_print:nV { number } \l__siunitx_tmpa_tl
383   }
384 }
385 \LWR@formatted{__siunitx_range_exponent:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387 {
388   \tl_set_eq:NN \l__siunitx_tmpb_tl \l__siunitx_exponent_product_tl
389   \bool_if:NT \l__siunitx_tight_bool
390   {
391     \tl_set:Nx \l__siunitx_tmpb_tl
392     { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpb_tl }
393   }
394   \tl_set:Nx \l__siunitx_tmpa_tl
395   {
396     \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l__siunitx_tmpb_tl { } }
397     \exp_not:o \l__siunitx_tmpa_tl
398   }
399 }
400 \LWR@formatted{__siunitx_table_print_S_reserved_exponent_product:}

```

\LWR@origensuredmath is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402   \bool_set_true:N \l__siunitx_number_compound_bool
403   \__siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404   \bool_if:NF \l__siunitx_error_bool
405   {
406     \tl_if_empty:NTF \l__siunitx_number_multi_tl
407     { \__siunitx_number_output_parse_aux: }
408     { \__siunitx_number_output_quotient: }
409     \tl_if_empty:NF \l__siunitx_number_next_tl
410     {
411       \bool_if:NTF \l__siunitx_tight_bool
412       {
413         \__siunitx_print:nn { number }
414         { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415       }
416       {
417         \__siunitx_print:nn { number }
418         { \LWR@origensuredmath { { } \l__siunitx_output_product_tl { } } }
419       }
420       \__siunitx_number_output_parse:V \l__siunitx_number_next_tl
421     }
422   }
423 }
424 \LWR@formatted{__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn \__siunitx_set_math_fam:n #1 {
426   \group_begin:
427   \hbox_set:Nn \l__siunitx_tmp_box
428   {
429     \LWR@origensuredmath%      lwarp
430     {
431       \use:c { math #1 }
432       {
433         \int_const:cn { c__siunitx_math #1 _int } { \fam }
434       }
435     }
436   }
437   \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn \__siunitx_range_numbers:nn #1#2
440 {
441   \__siunitx_range_numbers_aux:n {#1}
442   \text{\l__siunitx_range_phrase_tl}%      lwarp
443   \__siunitx_range_numbers_aux:n {#2}
444 }

```

Force \text:

```

445 \cs_set_protected:Npn \__siunitx_range_unit:nnnn #1#2#3#4 {
446   \__siunitx_unit_parse_options:nn {#1} {#2}
447   \bool_if:NTF \l__siunitx_range_repeat_bool
448   {
449     \__siunitx_unit_in:nn {#1} {#2}
450     \__siunitx_range_numbers_aux:n {#3}
451     \text{\l__siunitx_range_phrase_tl}%      lwarp

```

```

452   \__siunitx_range_numbers_aux:n {#4}
453   }
454   {
455     \bool_if:NT \__siunitx_process_fixed_bool
456       { \bool_set_true:N \__siunitx_process_drop_exponent_bool }
457     \bool_if:NT \__siunitx_range_brackets_bool
458       { \__siunitx_print:nV { number } \__siunitx_bracket_open_tl }
459     \__siunitx_range_numbers:nn {#3} {#4}
460     \bool_if:NT \__siunitx_range_brackets_bool
461       { \__siunitx_print:nV { number } \__siunitx_bracket_close_tl }
462     \__siunitx_range_exponent:
463     \__siunitx_unit_output_number_sep:
464     \__siunitx_unit_output:nn {#1} {#2}
465   }
466 }

467 \ExplSyntaxOff

468 \AtBeginDocument{
469 \sisetup{
470   detect-mode=true,
471   per-mode=symbol, % fraction is not seen by pdftotext
472   text-celsius = {\LWR@siunitx@textcelsius},
473   text-degree = {\LWR@siunitx@textdegree},
474   text-arcminute = {\LWR@siunitx@textprime} ,
475   text-arcsecond = {\LWR@siunitx@textdblprime} ,
476 }
477 }

478 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}

```

Passing range-phrase to common-mathjax-siunitx does not seem to work with v2 using translator as it does with v3 using translations. The range-phrase therefore is set to an en-dash.

```

479 \AtBeginDocument{
480 \CustomizeMathJax{\def\LWRsiunitxrangephrase{\unicode{x2013}}}
481 }

```

---

File 454 **lwarp-common-mathjax-siunitx.sty**

§ 563 Package **common-mathjax-siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg common-mathjax-siunitx common-mathjax-siunitx adds MATHJAX for siunitx and siunitx-v2.

for HTML output: For MATHJAX.

MATHJAX

The following runs much faster as separate \CusomizeMathJax calls instead of one single call.

```

1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{\#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{\#2^{\#1}}}

```

Used as an end marker when parsing values:

```
5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

`[<options>] {<value>}`

```
6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7   \ifblank{#1}{\num{#1}\degree}%
8   \ifblank{#2}{\num{#2}^{\unicode{x2032}}}% \prime
9   \ifblank{#3}{\num{#3}^{\unicode{x2033}}}% \dblprime
10 }}
11 \CustomizeMathJax{\newcommand{\ang}[2][]{\LWRsiunitxang#2;;;\LWRsiunitxEND}}
```

`[<options>] {<value>}`

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macros is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus / minus (+-, `\pm`), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```
12 \ExplSyntaxOn
13 \AtBeginDocument{
14   \ifdefstring{\l__siunitx_output_decimal_tl}{,}{.}
15   {\CustomizeMathJax{\def\LWRsiunitxdecimal{,}}}
16   {\CustomizeMathJax{\def\LWRsiunitxdecimal{.}}}
17 }
18 \ExplSyntaxOff
```

Any units which must be distributed across multiple dimensions:

```
19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}
```

`siunitx` accepts either commas or periods as decimal points. `\LWRsiunitxprintdecimal` splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

`\LWRsiunitxENDTWO` is used only by `\LWRsiunitxprintdecimalsubtwo`, to avoid a parsing conflict with the more widely-used `\LWRsiunitxEND`.

The following splits by decimal commas:

```
20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}
21
22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{}}
```

If nothing is ahead of the decimal comma, add a leading zero:

```
23   \ifblank{#1}{0}{\mathrm{#1}}%
```

If something is after the decimal comma, print the decimal and the fraction:

```
24   \ifblank{#2}%
25     {}%
26     {%
27       {\LWRsiunitxdecimal}%
```

```

28         \mathrm{#2}%
29     }%
30 }}

```

The following splits by decimal periods:

```

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
32     \LWRsiunitxprintdecimalsubtwo#1,,\LWRsiunitxENDTWO%
33     \ifblank{#2}%
34     {}%
35     {%
36         {\LWRsiunitxdecimal}%
37         \LWRsiunitxprintdecimalsubtwo#2,,\LWRsiunitxENDTWO%
38     }%
39 }}
40
41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
42     \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%
43 }}

```

The following splits by +

```

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
45     \ifblank{#2}%
46     {%
47         \LWRsiunitxprintdecimal{#1}%
48     }% no plus
49     {%
50         \ifblank{#1}%
51         {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
52         {% a+b
53             \LWRsiunitxprintdecimal{#1}%
54             \unicode{x002B}% plus sign
55             \LWRsiunitxprintdecimal{#2}%
56         }%
57     }%
58     \LWRsiunitxdistribunit%
59 }}

```

The following splits by -

```

60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61     \ifblank{#2}%
62     {\LWRsiunitxnumplus#1+++\LWRsiunitxEND}%
63     {%
64         \ifblank{#1}{\LWRsiunitxprintdecimal{#1}}%
65         \unicode{x002D}% mathematical minus sign
66         \LWRsiunitxprintdecimal{#2}%
67         \LWRsiunitxdistribunit%
68     }%
69 }}

```

The following splits by \pm

```

70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71     \ifblank{#2}%
72     {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
73     {%
74         \LWRsiunitxprintdecimal{#1}%
75         \unicode{x00B1}% \pm
76         \LWRsiunitxprintdecimal{#2}%
77         \LWRsiunitxdistribunit%
78     }%
79 }}

```



The following splits by +-

```

80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81   \ifblank{#2}%
82     {\LWRsiunitxnumpmmacro#1\pm\pm\pm\LWRsiunitxEND}%
83     {%
84       \LWRsiunitxprintdecimal{#1}%
85       \unicode{x0B1}% \pm
86       \LWRsiunitxprintdecimal{#2}%
87       \LWRsiunitxdistribunit%
88     }%
89 }}

```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91   \ifblank{#1}%
92     {}%
93     {%
94       \ifstrequal{#1}{-}%
95         {-}%
96         {\LWRsiunitxprintdecimal{#1}\times}%
97       }%
98   10^{\LWRsiunitxprintdecimal{#2}}%
99   \LWRsiunitxdistribunit%
100 }}

```

The following splits by D

```

101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102   \ifblank{#2}%
103     {\LWRsiunitxnumpm#1+-+\LWRsiunitxEND}%
104     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
105 }}

```

The following splits by d

```

106 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
107   \ifblank{#2}%
108     {\LWRsiunitxnumD#1DDD\LWRsiunitxEND}%
109     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
110 }}

```

The following splits by E

```

111 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
112   \ifblank{#2}%
113     {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
114     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
115 }}

```

The following splits by e

```

116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117   \ifblank{#2}%
118     {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
120 }}

```

The following splits by x

```

121 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
122   \ifblank{#2}%
123     {\LWRsiunitxnume#1eee\LWRsiunitxEND}%

```

```

124      {%
125          \ifblank{#3}%
126          {%
127              \LWRsiunitxnume#1eee\LWRsiunitxEND%
128              \times%
129              \LWRsiunitxnume#2eee\LWRsiunitxEND%
130          }%
131      {%
132          \LWRsiunitxnume#1eee\LWRsiunitxEND%
133          \times%
134          \LWRsiunitxnume#2eee\LWRsiunitxEND%
135          \times%
136          \LWRsiunitxnume#3eee\LWRsiunitxEND%
137      }%
138  }%
139 }}

```

```

140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141     \LWRsiunitxnumx#2xxxxx\LWRsiunitxEND%
142 }}

```

 $\backslash$ si

[*options*] {*unit*}

~ is converted to a thin space. Not able to convert period to thin space because the period might be in  $\backslash$ raiseto, for example.

```

143 \CustomizeMathJax{\newcommand{\si}[2][]{%
144     \mathrm{\gsubstitute{#2}{~}{\,}}%
145 }}

```

 $\backslash$ SI

[*options*] {*value*} [*prefix*] {*unit*}

$\backslash$ SI has a second optional arg, which is parsed using  $\backslash$ ifnextchar.

```

146 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
147     \def\LWRsiunitxdistribunit{\, \si{#3}}%
148     {#2}\num{#1}%
149     \def\LWRsiunitxdistribunit{}}%
150 }}
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153     \def\LWRsiunitxdistribunit{\, \si{#2}}%
154     \num{#1}%
155     \def\LWRsiunitxdistribunit{}}%
156 }}
157 \CustomizeMathJax{\newcommand{\SI}[2][]{%
158     \ifnextchar[%
159         {\LWRsiunitxSIopt{#2}}%
160         {\LWRsiunitxSI{#2}}%
161 }}

```

 $\backslash$ numlist

[*options*] {*list*}

$\backslash$ numList should only be used in text mode. If used in MATHJAX, it is merely printed as text, so add space around the semicolons.

```

162 \CustomizeMathJax{\newcommand{\numList}[2][]{\text{#2}}}

```

 $\backslash$ numrange

[*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in MATHJAX math, an en-dash is used instead of the range-phrase.

```
163 \CustomizeMathJax{\newcommand{\numrange}[3][\%
164   \num{#2}\ \LWRsiunitxrangephrase\ \num{#3}\%
165 ]}
```

`\SIlist` [*options*] {*list*}

`\SIlist` and `\SIrange` should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][\text{#2}\, \si{#3}]}
```

`\SIrange` [*options*] {*value1*} {*value2*} {*unit*}

```
167 \CustomizeMathJax{\newcommand{\SIrange}[4][\%
168   \num{#2}\, #4\ \LWRsiunitxrangephrase\ \num{#3}\, #4\%
169 ]}
```

`\tablenum` [*options*] {*value*}

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][\mathrm{#2}]}
```

```
171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
```

```

207 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{^{\prime\prime}}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{au}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathit{a}_0}}
214 \CustomizeMathJax{\newcommand{\cflight}{\mathit{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathit{m}_\mathrm{e}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathit{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_\mathrm{h}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathit{\unicode{x210F}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
222 \CustomizeMathJax{\let\LWRorigbar\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
234 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
241 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_\mathrm{\#1}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{\#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{\#1}^3}}

265 \CustomizeMathJax{\newcommand{\per}{\, \mathrm{/}}}

```

```
266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
```

```
326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}
```

File 455 **lwarp-skmath.sty**

§ 564 Package **skmath**

(Emulates or patches code by SIMON SIGURDHSSON.)

Pkg skmath

skmath is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

skmath is using l3keys, which does not seem to have an equivalent to \ifpackagewith. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{#1}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}

```

If notation=iso, use upright, else italic:

```

15 \cs_if_eq:NNTF \__skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17   \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18   \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21   \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22   \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }

```

If notation=iso, use upright, else italic:

```

24 \cs_if_eq:NNTF \__skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 { \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}} }
26 { \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}} }

```

skmath uses \DeclarePairedDelimiter from mathtools for \abs and \norm, and lwarp uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```

27 \cs_if_eq:NNTF \__skmath_integral_d: \LWR__skmath_integral_d:
28   { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}}} }
29   { \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}}} }

```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32   #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36   \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```

38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39   \ifblank{#1}{%
40     \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41   }
42 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpd denominator#1^#2^#3\LWRskmathEND{%
44   \ifblank{#1}{%
45     \ifblank{#2}%
46       {\partial{#1}}%
47       {\partial{#1}^{#2}}%
48   }%
49 }}

```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase `^{}` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonominator}[5]{%
51   \partial^{%
52     \def\LWRskmathpdplus{}}%
53     \LWRskmathpdnumerator#2^{}}^{\LWRskmathEND%
54     \def\LWRskmathpdplus{+}}%
55     \def\LWRskmathpdone{1}}%
56     \LWRskmathpdnumerator#3^{}}^{\LWRskmathEND%
57     \LWRskmathpdnumerator#4^{}}^{\LWRskmathEND%

```



```

58     \LWRskmathpdnumerator#5^{^}\LWRskmathEND%
59   }%
60   {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdoddenominator}[4]{%
64   \LWRskmathpddenominator#1^{^}\LWRskmathEND%
65   \ifblank{#2}{\,\,}%
66   \LWRskmathpddenominator#2^{^}\LWRskmathEND%
67   \ifblank{#3}{\,\,}%
68   \LWRskmathpddenominator#3^{^}\LWRskmathEND%
69   \ifblank{#4}{\,\,}%
70   \LWRskmathpddenominator#4^{^}\LWRskmathEND%
71 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73   \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74   \frac%
75     {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76     {\LWRskmathdoddenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80   \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF \__skmath_total_derivative_d: \LWR__skmath_total_derivative_d:
84   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }
86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87   \frac
88     {\LWRskmathtd^{#3}{#1}}
89     {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93   \LWRskmathtdsub{#1}#2^{\LWRskmathEND%
94 }}
95 \CustomizeMathJax{\newcommand{\E}[1]{%
96   \operatorname{E}\left[#1\right]%
97 }}
98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101   \operatorname{P}%
102   \left[#1\right]%
103 }}

```

```

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105   \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109   \operatorname{Cov}\left(#1,#2\right)%
110 }}

```

Common code for `\sin` etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112   \ifblank{#1}{\^{#1}}%
113   \ifblank{#2}{\left(#2\right)}%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117   \operatorname{#1}%
118   \LWRskmathtrigtwo%
119 }}
120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135   \ifblank{#1}{\_{#1}}%
136   \ifblank{#2}{\left(#2\right)}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140   \operatorname{#1}%
141   \LWRskmathlogtwo%
142 }}
143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}
145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146   \operatorname{exp}%
147   \ifblank{#1}{\left(#1\right)}%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%

```

```

150 \mathchoice
151   {\ee^{#1}}
152   {\LWRskmathexpparens{#1}}
153   {\LWRskmathexpparens{#1}}
154   {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexpnostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159   \operatorname{\LWRskmathminname}%
160   \ifblank{#1}{}{%
161     _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162   }%
163   \ifblank{#2}{}{#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166   \ifblank{#1}{%
167     {\operatorname{\LWRskmathminname}}%
168     {%
169       \underset%
170         {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171         {\operatorname{\LWRskmathminname}}%
172     }%
173   \ifblank{#2}{}{\left\{#2\right\}}%
174 }}

```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176   \def\LWRskmathminname{#1}%
177   \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192   \CustomizeMathJax{\renewcommand{\Re}[1]{%

```

```

193     \LWRskmathRe%
194     \ifblank{#1}{\left(#1\right)}%
195   }}
196   \CustomizeMathJax{\renewcommand{\Im}[1]{%
197     \LWRskmathIm%
198     \ifblank{#1}{\left(#1\right)}%
199   }}
200 }{
201   \CustomizeMathJax{\renewcommand{\Re}[1]{%
202     \operatorname{Re}%
203     \ifblank{#1}{#1}%
204   }}
205   \CustomizeMathJax{\renewcommand{\Im}[1]{%
206     \operatorname{Im}%
207     \ifblank{#1}{#1}%
208   }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 456 **lwarp-slantsc.sty**

§ 565 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg slantsc

slantsc is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@nosshape}{}
3 \LWR@formatted{nosshape}
4
5 \FilenameNullify{%
6   \LetLtxMacro\nosshape\empty%
7 }

```

---

File 457 **lwarp-slashed.sty**

§ 566 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed

slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

File 458 **lwarp-soul.sty**

§ 567 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg soul

soul is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]  
2 \RequirePackage{xcolor}% for \convertcolorspec

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}
```

\so

{<text>}

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

\caps

{<text>}

```
13 \newcommand{\caps}[1]{%
14   \InlineClass%
15     (font-variant:small-caps;letter-spacing:.1ex)%
16     {capsspacing}{#1}%
17 }
```

\LWR@soulcolor

{<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}

Add colors if not empty:

```
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcempty{#2}%
20 {%
21   \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24   \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25   \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }
```

```
28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{LWR@soululcolor}{uline}{text-decoration-color}%
30   {text-decoration:underline; text-decoration-skip: auto;}
```

```

31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{LWR@soulstcolor}{sout}{text-decoration-color}%
35   {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{LWR@soulhlcolor}{highlight}{background-color}%
40   {background:LWR@origpound{ }F8E800}
41 }

```

**Nullified:**

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\<{}

```

**Set colors:**

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

**Long versions of the user-level macros:**

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

File 459 **lwarp-soulpos.sty**

§ 568 Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg soulpos

**soulpos** is emulated.

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5

```

---

```

6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%

```

---

File 460 **lwarp-soulutf8.sty**

§ 569 Package **soulutf8**

Pkg soulutf8

soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 461 **lwarp-splitbib.sty**

§ 570 Package **splitbib**

Pkg splitbib

*(Emulates or patches code by NICOLAS MARKEY.)*

splitbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10   text-align:center ;
11   border-top: 1px solid black ;
12   border-bottom: 1px solid black ;
13 ]{splitbibbar}
14   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20   text-align:center ;

```

```

21 ]{\splitbidash}
22   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27   \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---

File 462 **lwarp-splitidx.sty**


§ 571 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg splitidx

splitidx is patched for use by lwarp.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 692.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

**for HTML output:** 1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]

```

2 \catcode'\_ =12%
3 \xpatchcmd{\newindex}
4   {\jobname-#2.idx}
5   {\jobname-#2_html.idx}
6   {}
7   {\LWR@patcherror{splitidx}{\newindex}}
8 \catcode'\_ =8%

```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```

9 \renewcommand*{\@wrsindex}[2][]{%
10 \ifx\relax#1\relax
11 \if@splitidx
12   \@wrsindex[idx]{#2}%

```



```

13  \else
14  \def\@tempa{#2}%
15  \if@verbindex\@onelevel@sanitize\@tempa\fi
16  \wrindex{\@tempa}%
17  \fi
18  \else
19  \def\@tempa{#2}%
20  \csname index@#1@hook\endcsname
21%  \expandafter\ifx\csname @wrsindex\endcsname\relax
22  \addtocounter{LWR@autoindex}{1}%          lwarp
23%  \@@wrsindex{#1}{\@tempa}{\thepage}}%
24  \@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}}%
25%  \else
26%  \def\@tempb{\@wrsindex{#1}}%
27%  \expandafter\@tempb\@tempa||\%
28%  \fi

```

The label is assigned after the file write to avoid conflict with cleveref.

```

29  \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
30  \endgroup
31  \@esphack
32  \fi
33 }

```

lwarp defines sectioning commands with xparse, so the below patches are done as temporary redefinitions instead of being \let.

```

34 \xpatchcmd{\printsubindex}
35  {\let\section\subsection}
36  {\renewcommand*\section{\subsection}}
37  {}
38  {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41  {\let\chapter\section}
42  {\renewcommand*\chapter{\section}}
43  {}
44  {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47  {\let\@makechapterhead\section}
48  {\def\@makechapterhead{\section}}
49  {}
50  {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

File 463 **lwarp-srcltx.sty**

§ 572 Package **srcltx**

Pkg srcltx

srcltx is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}

```

---

```

4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

---

File 464 **lwarp-srctex.sty**

§ 573 Package **srctex**

Pkg srctex

srctex is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{lwarp-srcltx}

```

---

File 465 **lwarp-stabular.sty**

§ 574 Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg stabular

stabular is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

```

Env stabular [*vpos*] [*colspec*]

```

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 {\end{tabular}}

```

Env stabular {*width*} [*vpos*] [*colspec*]

```

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 {\end{tabular}}

```

---

File 466 **lwarp-stackengine.sty**

§ 575 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg stackengine

stackengine is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximages` does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine
3 \renewcommand*{\stackengine}[8]{%
4   \ifstrequal{#4}{0}%
5     {\begin{lateximage}[\ImageAltText]}%
6     {\begin{lateximage}[\ImageAltText][vertical-align:top]}%
7   \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8   \end{lateximage}%
9 }
```

`\@stack` uses a `lateximage` with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13   {}
14   {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17   \ifstrequal{#3}{0}%
18     {\begin{lateximage}[\ImageAltText]}%
19     {\begin{lateximage}[\ImageAltText][vertical-align:top]}%
20   \LWR@orig@@stack{#1}{#2}{#3}{#4}%
21   \end{lateximage}%
22 }
```

The lapping macros are disabled for HTML:

```
23 \newcommand*\LWR@HTML@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}
```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```
25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26   {}
27   {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30   {}
31   {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34   {\begin{lateximage}[\ImageAltText][vertical-align:middle]}
35   {}
36   {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39   {}
40   {\LWR@patcherror{stackengine}{stackanchor app}}
```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42   {\begin{lateximage}[\ImageAltText][vertical-align:middle]}
43   {}
44   {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47   {}
48   {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50   \xdef\sv@name{\stack@macro@name{#1}}%
51   \@ifundefined{\sv@name content}{%
52     \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53     }{}%
54   \begingroup%      lwarp
55     \LWR@restoreorigformatting%      lwarp
56     \RenewDocumentEnvironment{lateximage}{s o s o d}{}{}% lwarp: inside group
57     \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
58     \expandafter\gdef\expandafter#1\expandafter{%
59       \expandafter\begin\expandafter{lateximage\expandafter}%      lwarp
60       \expandafter\usebox\expandafter%
61       {\csname\sv@name content\endcsname}%
62       \expandafter\end\expandafter{lateximage\expandafter}%      lwarp
63     }%
64   \endgroup%      lwarp
65 }

```

---

File 467 **lwarp-stackrel.sty**

§ 576 Package **stackrel**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg stackrel

**stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][[]]{%
4   \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][[]]{%
8   \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}

```

File 468 **lwarp-statem2.sty**

§ 577 Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANL.)*

Pkg statex2

statex2 is patched for use by lwarp, and emulated for MATHJAX.

⚠ As of this version, option autobold does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character  $\sim$  does not create  $\sim$ . Use  $\sim$  directly.

⚠ Because MATHJAX has limited conditional processing:

- $\wrap$  only creates square braces, no matter what its optional arguments.
- $\P$ ,  $\pCau$ ,  $\pN$ , and  $\pU$  do not handle special cases.

⚠  $\and$  To have  $\and$  work if using  $\maketitle$ , place the following after the start of the document:

```
\newcommand*\and}{%
  \relax\ifmmode%
    \expandafter\;\mb{\mathrm{and}}\;%
  \else%
    \expandafter\STATEXand%
  \fi%
}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]
2 \newcommand*\LWR@HTML@Alpha}[1][[]]{%
3   \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4   \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*\LWR@HTML@List}[1][[]]{%
9   \textbf{\textcolor{Dandelion}{\textsf{L}}\textsubscript{\textit{#1}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*\LWR@HTML@Snd}[1][[]]{%
14   \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15   \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
```

```

24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}%      not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\verf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}^{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2][\mb{\mathrm{E}}_{\mb{#1}} \wrap{\mb{#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][\%
45   \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}}%
46 ]}
47 \CustomizeMathJax{\newcommand{\IBeta}[2][\%
48   \mb{\frac{\Gamma[#+#2]}{\Gamma[#+1]\Gamma[#+2]}}}%
49 ]}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}}\; \; \;}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}}\; \; \;}
54 \CustomizeMathJax{\newcommand{\pderiv}[2][\%
55   \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}}%
56 ]}
57 \CustomizeMathJax{\newcommand{\pderivf}[2][\%
58   \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}}%
59 ]}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline{}}}
62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{#1}} \wrap{\mb{#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}}\; \; \;}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}}\; \; \;}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[ #2 \right]]}%      only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left( #1 \right)}}%  lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\mb{\mathrm{iid}}}{\mb{\sim}}\; \;}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\mb{\mathrm{ind}}}{\mb{\sim}}\; \;}
73 \CustomizeMathJax{\newcommand{\indpr}{\%
74   \; \stackrel{\mb{\mathrm{ind}}}{\mb{\sim}}\stackrel{\mb{\mathrm{prior}}}{\mb{\sim}}\; \;}
75 ]}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mb{\mathrm{post}}}{\mb{\sim}}\; \;}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mb{\mathrm{prior}}}{\mb{\sim}}\; \;}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mb{\mathrm{and}}\; \; \;}
83 %

```

```

84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{\#1}}\wrap{\mb{\#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\|}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}\LWRwrapparen{\mb{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}\LWRwrapparen{\mb{\#1}, \ #2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95   \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{\#1}, \ #2, \ #3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98   \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{\#1}, \ #2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{\#1}, \ #2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{\#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105   \mb{\frac{\Gamma[\#2+1]\Gamma[\#3+\#1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}
106     {\Gamma[\#1+1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]}}%
107   \I[\#1]{\{0, 1, \., \ #2\}}, \where \#3>0, \; \#4>0 \and n=1, 2, \.}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110   \mb{\binom{\#2}{\#1}\#3^{\#1}} \LWRwrapparen{\mb{\{1-\#3\}^{\#2-\#1}}}%
111   \mb{\I[\#1]{\{0, 1, \., \ #2\}}, \where p \in (0, 1) \and n=1, 2, \.}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114   \mb{\frac{1}{\#1!}\#2^{\#1}\e^{-\#2}\I[\#1]{\{0, 1, \. \}}, \where \#2>0}}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{\#1}, \ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][x]{%
120   \chisq_{\mb{\#1}}\LWRwrapparen{\mb{\#2}}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}\LWRwrapparen{\mb{\#1}, \ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}\LWRwrapparen{\mb{\#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}\LWRwrapparen{\mb{\#1}, \ #2}}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}\LWRwrapparen{\mb{\#1}, \ #2}}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{\#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130   \mb{\mathrm{Gamma}^{-1}}\LWRwrapparen{\mb{\#1}, \ #2}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133   \mb{\mathrm{Wishart}^{-1}}\LWRwrapparen{\mb{\#1}, \ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136   \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{\#1}, \ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}!\-!N}\LWRwrapparen{\mb{\#1}, \ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142   \mb{\mathrm{N}}_{\mb{\#1}}\LWRwrapparen{\mb{\#2}, \ #3}}%
143 }}

```

```

144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1},\ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwrapparen{\mb{#1},\ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}\LWRwrapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}\LWRwrapparen{\mb{#1},\ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}\LWRwrapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153   \IBeta{#2}{#3}%
154   #1^{#2-1}\LWRwrapparen{#1-#1}^{#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 %   \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1^2}}%
158   {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3^2\right\}}, \where #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161   \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e^{-#1/2}%
162   \I[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165   \frac{1}{#2}\e^{-#1/#2}\I[#1]{0,\infty},%
166   \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169   \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e^{-#3#1}%
170   \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 %   \ifthenelse{\equal{#2, #3}{0, 1}}%
174 %   {\frac{1}{\sqrt{2\cpi}}\e^{-#1^2/2}}%
175   {\frac{1}{\sqrt{2\cpi \cdot #3}}\e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178   \frac{#3}{#2}\LWRwrapparen{1+#1/#2}^{#3+1}\I[#1]{0,\infty},%
179   \where #2>0 \and #3>0%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 %   \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0,\ 1}}%
183   {\frac{1}{#3-#2}\I[#1]{#2,\ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b} [1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c} [1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d} [1]{\,\mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.} {\mb{\ldots}}}
194 \end{warpMathJax}

```

---

File 469 **lwarp-statistics.sty**

§ 578 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)



Pkg statistics

statistics is patched for use by lwarp.

⚠ `\color` The statistics documentation examples include the use of the `\color` macro. Use `\textcolor` instead.

⚠ `math` The statistics package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\(` and `\)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]
2 \ExplSyntaxOn
```

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```
3 \StartDefiningTabulars%      lwarp
4 \cs_set_protected_nopar:Nn \__statistics_table_make:nn {
5   \int_compare:nT
6     { 0 < \l__statistics_table_maxcols_int
7       = \l__statistics_nbvals_int } {
8     \__statistics_table_end:
9     \tl_use:N \l__statistics_table_sep_tl
10    \__statistics_table_start:
11   }
12   \int_incr:N \l__statistics_nbvals_int
13   \int_incr:N \l__statistics_currange_int
14   \fp_add:Nn \l__statistics_curtotal_fp { #2 }
15   \__statistics_set_if_shown:N \l_tmpa_bool
16   \tl_set:Nx \l_tmpa_tl {
17     \exp_not:n { & \tl_set:Nn \currentcolumn } {
18       \int_use:N \l__statistics_currange_int
19     }
20   }
21   \bool_if:NTF \l_tmpa_bool {
22     \tl_put_right:Nn \l_tmpa_tl
23       { \__statistics_table_shown_format:n }
24   }{
25     \tl_put_right:Nn \l_tmpa_tl
26       { \__statistics_table_hidden_format:n }
27   }
28   \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29   \bool_if:NT \l__statistics_table_values_bool {
30     \tl_put_right:Nx \l__statistics_table_values_tl {
31       \exp_not:V \l_tmpa_tl {
32         \exp_not:n {
33           \__statistics_table_values_format:n { #1 }
34         }
35       }
36     }
37   }
38   \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
39   \bool_if:NT \l__statistics_table_counts_bool {
```

```

40     \tl_put_right:Nx \l__statistics_table_counts_tl {
41         \exp_not:V \l_tmpa_tl {
42             \exp_not:n {
43                 \__statistics_table_counts_format:n {
44                     { \__statistics_table_allcounts_format:n { #2 } }
45                 }
46             }
47         }
48     }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51     \tl_put_right:Nx \l__statistics_table_icc_tl {
52         \exp_not:V \l_tmpa_tl {
53             \exp_not:n { \__statistics_table_icc_format:n }
54             {
55                 \exp_not:n{ \__statistics_table_allcounts_format:n }
56                 { \fp_use:N \l__statistics_curtotal_fp }
57             }
58         }
59     }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62     \tl_put_right:Nx \l__statistics_table_dcc_tl {
63         \exp_not:V \l_tmpa_tl {
64             \exp_not:n { \__statistics_table_dcc_format:n }
65             {
66                 \exp_not:n{ \__statistics_table_allcounts_format:n }
67                 {
68                     \fp_eval:n {
69                         \l__statistics_total_fp
70                         - \l__statistics_curtotal_fp
71                         + #2
72                     }
73                 }
74             }
75         }
76     }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79     round(\l__statistics_curtotal_fp
80         / \l__statistics_total_fp,
81         \l__statistics_table_round_int)
82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84     \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85         \exp_not:V \l_tmpa_tl {
86             \exp_not:n { \__statistics_table_frequencies_format:n }
87             {
88                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
89                 {
90                     \fp_eval:n {
91                         \l__statistics_table_curICF_fp
92                         - \l__statistics_table_prevICF_fp
93                     }
94                 }
95             }
96         }
97     }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {

```

```

100     \tl_put_right:Nx \l__statistics_table_icf_tl {
101         \exp_not:V \l_tmpa_tl {
102             \exp_not:n { \__statistics_table_icf_format:n }
103             {
104                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
105                 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106             }
107         }
108     }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111     \tl_put_right:Nx \l__statistics_table_dcf_tl {
112         \exp_not:V \l_tmpa_tl {
113             \exp_not:n { \__statistics_table_dcf_format:n }
114             {
115                 \exp_not:n{ \__statistics_table_allfreqs_format:n }
116                 {
117                     \fp_eval:n {
118                         1 - \l__statistics_table_prevICF_fp
119                     }
120                 }
121             }
122         }
123     }
124 }
125 \fp_set_eq:NN
126     \l__statistics_table_prevICF_fp
127     \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with lwarp, which looks for certain tokens to detect \hlines, so \hline is used instead.

```

130 \cs_set_protected_nopar:Nn \__statistics_table_end: {
131     \tl_set:Nx \l__statistics_table_preamble_tl {
132 %         \exp_not:n { \begin{array}[ ] }
133         \exp_not:n { \begin{tabular}[ ] }% lwarp
134         \exp_not:V \l__statistics_table_valign_tl
135         \exp_not:n { ] }
136         { \exp_not:V \l__statistics_table_headcoltype_tl
137           \prg_replicate:nn { \l__statistics_nbvals_int }
138           { \exp_not:V \l__statistics_table_coltype_tl } }
139     }
140     \seq_clear:N \l__statistics_table_contents_seq
141     \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142         \bool_if:cT { l__statistics_table_##1_bool } {
143             \seq_put_right:Nv
144                 \l__statistics_table_contents_seq
145                 { l__statistics_table_##1_tl }
146         }
147     }
148 %     $
149     \tl_use:N \l__statistics_table_preamble_tl
150     \hline% lwarp
151 %     \l__statistics_table_preline_tl
152     \seq_use:Nn
153         \l__statistics_table_contents_seq
154         { \l__statistics_table_newline_tl }
155     \\\

```

```

156 %      \l__statistics_table_postline_tl
157      \hline%      lwarp
158 %      \end{array}$
159      \end{tabular}%      lwarp
160 }

```

With `lwarp`, `\ensuremath` creates an SVG image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the statistics package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn \l__statistics_table_start: {
162   \int_zero:N \l__statistics_nbvals_int
163   \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164     \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165   }
166   \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167     \tl_set:cx { l__statistics_table_##1_tl } {
168 %       \exp_not:N \ensuremath {
169         \exp_not:N \hbox {
170           \exp_not:c { l__statistics_table_##1_name_tl }
171         }
172 %     }
173   }
174 }
175 }

```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand \l__statistics_IN:w { m u{;} u{;} m } {
177 %   \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178   #1 #2 ; #3 #4%      lwarp
179 }
180
181 \l__statistics_setup:nn { table } {
182 %   values/format = \ensuremath{#1},
183   values/format = {#1},%      lwarp
184 }

```

Added `\ExplSyntaxOn/Off` to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +O{} +m +O{} } {
186   \group_begin:
187   \int_gincr:N \g__statistics_graph_last_int
188   \tl_set:Nx \l_tmpa_tl {
189     \exp_not:n { g__statistics_graph_xstep_ }
190     \int_use:N \g__statistics_graph_last_int
191     \exp_not:n { _tl }
192   }
193   \tl_if_exist:cTF { \l_tmpa_tl } {
194     \fp_gset:Nn \g__statistics_graph_xstep_fp
195       { \tl_use:c { \l_tmpa_tl } }
196   }{
197     \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198   }
199   \l__statistics_setup:nn { graph } { #1, #3 }

```

```

200 \tl_if_single:nTF { #2 } {
201   \cs_if_exist:NF #2 { #2 }
202   \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204   \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp
207 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l__statistics_total_fp
210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213   \__statistics_graph_prepare:n
214   \__statistics_graph_prepare:nn
215   \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220   \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn%   lwarp
222   \__statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff%   lwarp
224   }{
225 \ExplSyntaxOn%   lwarp
226   \__statistics_graph_dopicture_hist:
227 \ExplSyntaxOff%   lwarp
228   }
229 }{
230 \ExplSyntaxOn%   lwarp
231   \__statistics_graph_dopicture_comb:
232 \ExplSyntaxOff%   lwarp
233   }
234 \iow_now:Nx \@auxout {
235   \exp_not:n {
236     \ExplSyntaxOn
237     \tl_gset:cn
238   }
239   {
240     \exp_not:n {g__statistics_graph_xstep_}
241     \int_use:N \g__statistics_graph_last_int
242     \exp_not:n {_tl}
243   }
244   {
245     \fp_to_decimal:N \g__statistics_graph_xstep_fp
246   }
247   \exp_not:n {
248     \ExplSyntaxOff
249   }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

File 470 **lwarp-statmath.sty**

§ 579 Package **statmath**

*(Emulates or patches code by SEBASTIAN ANKARGREN.)*

Pkg statmath

statmath is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8   {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9   {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bf i}{\abcbf i}}

```

```

48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{\}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{\}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a. s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 471 **lwarp-steinmetz.sty**

§ 580 Package **steinmetz**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg steinmetz

steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]
2 \renewcommand{\phase}[2][\%
3   \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]
4   \ensuremath{\underline{/#2}}
5   \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][\underline{/#2}}
10 \end{warpMathJax}

```

---

File 472 **lwarp-stfloats.sty**

§ 581 Package **stfloats**

Pkg stfloats

stfloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a `ltj*` class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}
```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}
```

---

File 473 **lwarp-struktex.sty**

§ 582 Package **struktex**

Pkg struktex

*(Emulates or patches code by JOBST HOFFMANN.)*

struktex is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{struktex}

```
2 \BeforeBeginEnvironment{struktogramm}{%
3   \begin{lateximage}[-struktex-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11   \begin{center}
12     \input{#1.nss}
13   \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}
```



---

File 474 **lwarp-subcaption.sty**

§ 583 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg subcaption subcaption is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In **HTML** they are placed side-by-side automatically.

```
2 \xpretocmd{\subcaption@iiminipage}
3   {\minipagefullwidth}
4   {}
5   {\LWR@patcherror{subcaption}{subcaption@iiminipage}}
```

Likewise for a `\subcaptionbox`:

```
6 \xpretocmd{\subcaptionbox}
7   {\minipagefullwidth}
8   {}
9   {\LWR@patcherror{subcaption}{subcaptionbox}}
```


---

File 475 **lwarp-subfig.sty**


§ 584 Package **subfig**


*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg subfig subfig is supported and patched by lwarp.

 **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

 **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

 **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for **lwarp-subfig**:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

```
\sf@@@subfloat {<1 type>} [<2 lof entry>] [<3 caption>] {<4 contents>}
```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```

2 \long\def\sfloat@@@subfloat#1[#2][#3]#4{%
3 \begin{minipage}{\linewidth}% lwarp

4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stoppars% lwarp
12 \ifundefined{FBsc@max}{%
13   {\FB@readaux{\let\FBsuboheight\relax}}%
14 \@tempcnta=\@ne
15 \ifminipage
16   \@tempcnta=\z@
17 \else\ifdim \lastskip=\z@ \else
18   \@tempcnta=\tw@
19 \fi\fi
20 \ifmaincaptiontop
21   \sf@top=\sf@nearskip
22   \sf@bottom=\sf@farskip
23 \else
24   \sf@top=\sf@farskip
25   \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode

28%   \setbox\@tempboxa \hbox{#4}%
29%   \@tempdima=\wd\@tempboxa
30%   \ifundefined{FBsc@max}{%
31%     {\global\advance\Xhsize-\wd\@tempboxa
32%       \dimen@=\ht\@tempboxa
33%       \advance\dimen@\dp\@tempboxa
34%       \ifdim\dimen@>\FBso@max
35%         \global\FBso@max\dimen@
36%       \fi}%

```

Do not use boxes, which interfere with `lateximages`:

```

37%   \vtop%
38 \bgroup
39%   \vbox%
40 \bgroup
41   \ifcase\@tempcnta
42     \@minipagefalse
43   \or
44%     \vskip\sftop
45   \or
46     \ifdim \lastskip=\z@ \else
47%       \@tempkipb\sftop\relax\@xaddvskip
48     \fi
49   \fi
50 \sf@ifpositiontop{%
51   \ifx \@empty#3\relax \else
52     \sf@subcaption{#1}{#2}{#3}%
53%     \vskip\sfcapskip
54%     \vskip\sfcaptopadj
55   \fi\egroup

```

```

56 %           \hrule width0pt height0pt depth0pt
57             \LWR@startpars% lwarp
58 % \box\@tempboxa
59           #4
60           \LWR@stoppars% lwarp
61         }{%
62         \LWR@startpars% lwarp
63         \@ifundefined{FBsc@max}%
64         {
65 % \box\@tempboxa
66           #4
67         }%
68         {\ifx\FBsuboheight\relax
69 %           \box\@tempboxa
70           #4
71         \else
72 %           \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73           #4
74         \fi}%
75       \LWR@stoppars% lwarp
76       \egroup
77       \ifx \@empty#3\relax \else
78 %         \vskip\sf@capskip
79 %         \hrule width0pt height0pt depth0pt
80 %         \sf@subcaption{#1}{#2}{#3}%
81       \fi
82     }%
83 %     \vskip\sf@bottom
84   \egroup
85   \@ifundefined{FBsc@max}{%
86     {\addtocounter{FRobj}{-1}%
87     \ifnum\c@FRobj=0\else
88       \subfloatrowsep
89     \fi}%
90   \ifmaincaptiontop\else
91     \global\advance\@nameuse{c@\@capttype}\m@ne
92   \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

\sf@subcaption

{<1 type>} {<2 lof entry>} {<3 caption>}

```

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100   \bgroup
101     \let\label=\@gobble
102     \let\protect=\string
103     \def\@subcapLabel{%
104       \caption\lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
105     \sf@updatecaptionlist{#1}{#2}{\the\value{\@capttype}}{\the\value{#1}}%
106   \egroup
107   \fi
108   \bgroup
109   \ifx \relax#3\relax
110     \let\captionlabelsep=\relax
111   \fi
112 %   \setbox0\vbox{%

```

```

113 %      \hb@xt@{the\@tempdima}{%
114 %
115 % %      \hss
116 % %      \parbox[t]{the\@tempdima}{%
117 %      \caption@make
118 %          {\@nameuse{sub\@capttype name}}}%
119 %          {\@nameuse{thesub\@capttype}}}%
120 %          {#3}
121 % % }%
122 % %      \hss
123 % }
124 % }%
125 \@ifundefined{FBsc@max}%
126 %     {\box0}%
127 {
128 % \parbox[t]{the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}%      lwarp
130     \LWR@figcaption%      lwarp
131     \caption@make
132         {\@nameuse{sub\@capttype name}}}%
133         {\@nameuse{thesub\@capttype}}}%
134         {\LWR@isolate{#3}}}%

135     \endLWR@figcaption%      lwarp
136 \LWR@traceinfo{sfsubcap B2}%      lwarp
137 % }%
138 }%
139 {\dimen@ht0%
140 \advance\dimen@dp0%
141 \ifdim\dimen@>\FBsc@max
142 \global\FBsc@max\dimen@
143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146 \def\next{
147 % \parbox[t]{the\@tempdima}
148 }%
149 \else
150 \def\next{
151 % \parbox[t][\FBsubcheight][t]{the\@tempdima}
152 }%
153 \fi
154 % \vbox{%
155 %     \hb@xt@{the\@tempdima}{%
156
157 %         \hss
158 %         \next{%
159 \LWR@traceinfo{sfsubcap C1}% lwarp
160     \caption@make
161         {\@nameuse{sub\@capttype name}}}%
162         {\@nameuse{thesub\@capttype}}}%
163         {#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarp
165 % }%
166 %     \hss
167
168 % }
169 % }
170 % }%
171 \egroup

```

```
172 \LWR@startpars% lwarp
173 }
```

`\subfloat@label`Patches for `\sf@sub@label`:

```
174 \xpretocmd{\subfloat@label}
175   {\LWR@ensuredoingapar}
176   {}
177   {\LWR@patcherror{subfig}{subfloat@label}}
```

Patches for `\subref`.`\sf@subref``{\langle label \rangle}`

The unstarred version uses a `\ref` link whose printed text comes from the `sub@<label>`:

```
178 \renewcommand{\sf@subref}[1]{%
179   \LWR@subnewref{#1}{sub@#1}%
180 }
```

`\sf@@subref``{\langle label \rangle}`

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```
181 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The `l@sub<type>` for each is redefined.

`\@newsubfloat``[(\langle keys/values \rangle) {\langle float name \rangle}]`

```
182 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
183
184 \def\@newsubfloat[#1]#2{%
185   \LWR@orig@newsubfloat[#1]{#2}%
186   \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
187 }
```

Pre-defined for figures and tables:

`\l@subfigure``{\langle text \rangle} {\langle pagenum \rangle}`

```
188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
```

`\l@subtable``{\langle text \rangle} {\langle pagenum \rangle}`

```
189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

---

File 476 **lwarp-subfigure.sty**

§ 585 Package **subfigure**

Pkg subfigure

subfigure is emulated by subfig.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}
```

```

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{\}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*{\subcapsize}{}
20 \newcommand*{\subcaplabelfont}{}
21 \newcommand*{\subcapfont}{}

```

---

File 477 **lwarp-subsubscripts.sty**

§ 586 Package **subsubscripts**

*(Emulates or patches code by RICCARDO BRESCIANI.)*

Pkg subsubscripts

subsubscripts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourscriptsC}[7]{%
5     { }^{#2}_{#3}\hspace{#6}\hspace{#7}}^{#4}_{#5}%
6   }
7 }
8 \CustomizeMathJax{%
9   \newcommand{\lrsubscriptsC}[5]{%
10    \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lrsuperscriptsC}[5]{%
15    \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
16  }
17 }
18 \CustomizeMathJax{%
19   \newcommand{\fourscripts}[5]{%
20    \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21  }
22 }
23 \CustomizeMathJax{%
24   \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}}
25 }
26 \CustomizeMathJax{%

```

```

27 \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{#3}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][-.16ex]{\^{\#3}_{\#4}\hspace{#1}\#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][-.07ex]{\#2\hspace{#1}{\^{\#3}_{\#4}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
46 }
47 \end{warpMathJax}

```

File 478 **lwarp-supertabular.sty**

§ 587 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular **supertabular** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ **Misplaced alignment tab character &** For `\tablefirsthead`, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars

```

See section 8.10.1.

⚠ **lateximage** **supertabular** and **xtab** are not supported inside a **lateximage**.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

```

```

16 \newcommand{\tablecaption}[2][]{%
17   \long\gdef\LWRST@caption{%
18     \ifblank{#1}%
19       {\caption{#2}}%
20       {\caption[#1]{#2}}%
21   }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight}[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

File 479 **lwarp-svg.sty**

§ 588 Package **svg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

Pkg `svg`

**svg** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]
2 \xpretocmd{\includesvg}%

```



```

3   {\begin{lateximage}}%
4   {}%
5   {\LWR@patcherror{svg}{includesvg}}
6
7   \xapptocmd{\includesvg}%
8   {\end{lateximage}}%
9   {}%
10  {\LWR@patcherror{svg}{includesvg}}
11
12  \xpretocmd{\includeinkscape}%
13  {\begin{lateximage}}%
14  {}%
15  {\LWR@patcherror{svg}{includeinkscape}}
16
17  \xapptocmd{\includeinkscape}%
18  {\end{lateximage}}%
19  {}%
20  {\LWR@patcherror{svg}{includeinkscape}}

```

---

File 480 **lwarp-swfigure.sty**

§ 589 Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg swfigure

swfigure is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

2 \NewDocumentEnvironment{DFimage}%
3   {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}}%
4   {%
5     \begin{figure}
6     \centering
7     \includegraphics{#2}
8     \caption[#3]{#4}
9     \IfValueT{#5}{\label{#5}}
10    \end{figure}
11   }%
12   {}%

```

---

File 481 **lwarp-sympytex.sty**

§ 590 Package **sympytex**

*(Emulates or patches code by TIM MOLTENO.)*

Pkg sympytex

sympytex is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%

```

---

```

5   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6     {}%
7     {%
8       \LWR@forcenewpage%
9       \LWR@atbeginverbatim{verbatim}%
10      }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
15     {}%
16     {%
17       \LWR@afterendverbatim%
18     }%
19 }
20
21 }

```

---

File 482 **lwarp-syntonly.sty**

§ 591 Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

Pkg syntonly

syntonly is ignored.

**for HTML output:** Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]
2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntaxonly}{}
6
7 \@onlypreamble\syntaxonly
8
8 \def\nopages@{}

```

---

File 483 **lwarp-tabfigures.sty**

§ 592 Package **tabfigures**

Pkg tabfigures

tabfigures is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 484 **lwarp-tablefootnote.sty**

§ 593 Package **tablefootnote**

Pkg tablefootnote

tablefootnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

2 \LetLtxMacro\tablefootnote\footnote

---

File 485 **lwarp-tables.sty**

§ 594 Package **tables**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg tables **tables** is emulated. \LWR@hline is used to handle the optional argument when **tables** is loaded.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tables}

2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep

---

File 486 **lwarp-tabularx.sty**

§ 595 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabularx **tabularx** is emulated by **lwarp**.

**for HTML output:** Discard all options for **lwarp-tabularx**:

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}

\tabularxcolumn is ignored. All X columns will be p for now. The width is ignored.

3 \def\tabularxcolumn#1{p{#1}}  
4 \newcolumnntype{X}{p{1in}}  
  
5 \DeclareDocumentEnvironment{tabularx}{m o m}  
6   {\tabular{#3}}  
7   {\endtabular}  
8  
9 \DeclareDocumentEnvironment{tabularx\*}{m o m}  
10   {\tabular{#3}}  
11   {\endtabular}

---

File 487 **lwarp-tabulary.sty**

§ 596 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabulary

tabulary is emulated by lwarp.

**for HTML output:**

Discard all options for lwarp-tabulary.

Column types L, C, R, and J are emulated by lwarp core code.

```

1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}

10 \newcolumnntype{L}{l}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{l}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}
```

File 488 **lwarp-tagpdf.sty**

§ 597

Package

**tagpdf**

Pkg tagpdf

tagpdf is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tagpdf}[2021-08-27]

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { __tag / mc }
7 {
8   stash .bool_set:N = \l__tag_mc_key_stash_bool,
9   __artifact-bool .bool_set:N = \l__tag_mc_artifact_bool,
10  __artifact-type .choice:,
11  __artifact-type / pagination .code:n =
12  {},
13  __artifact-type / pagination/header .code:n =
14  {},
15  __artifact-type / pagination/footer .code:n =
16  {},
17  __artifact-type / layout .code:n =
18  {},
19  __artifact-type / page .code:n =
```

```

20     {},
21     __artifact-type / background .code:n =
22     {},
23     __artifact-type / notype .code:n =
24     {},
25     __artifact-type / .code:n =
26     {},
27 }
28
29 \keys_define:nn { __tag / mc }
30 {
31   tag .code:n = % the name (H,P,Span) etc
32   {},
33   raw .code:n =
34   {},
35   alttext .code:n = % Alt property
36   {
37     \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
38   },
39   actualtext .code:n = % ActualText property
40   {},
41   label .tl_set:N = \l__tag_mc_key_label_tl,
42   artifact .code:n =
43   {},
44   artifact .default:n = {notype}
45 }
46
47 \keys_define:nn { __tag / struct }
48 {
49   label .tl_set:N = \l__tag_struct_key_label_tl,
50   stash .bool_set:N = \l__tag_struct_elem_stash_bool,
51   tag .code:n = % S property
52   {},
53   title .code:n = % T property
54   {},
55   title-o .code:n = % T property
56   {},
57   alttext .code:n = % Alt property
58   {
59     \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
60   },
61   actualtext .code:n = % ActualText property
62   {},
63   lang .code:n = % Lang property
64   {},
65   ref .code:n = % Lang property
66   {},
67   E .code:n = % E property
68   {},
69 }
70
71 \keys_define:nn { __tag / struct }
72 {
73   AF .code:n = % AF property
74   {},
75   ,AFinline .code:n =
76   {}
77   ,AFinline-o .code:n =
78   {}
79 }

```

```
80
81 \keys_define:nn { __tag / struct }
82 {
83   attribute-class .code:n =
84   {}
85 }
86
87 \keys_define:nn { __tag / struct }
88 {
89   attribute .code:n = % A property (attribute, value currently a dictionary)
90   {},
91 }
92
93 \cs_new_protected:Npn \__tag_ref_label:nn #1 #2 % #1 label, #2 name of list mc or struct
94 {
95   \@bsphack
96   \ref_label:nv {#1}{c__tag_ref#2_clist}
97   \@esphack
98 }
99 \cs_generate_variant:Nn \__tag_ref_label:nn {en}
100
101 \cs_new:Npn \__tag_ref_value:nnn #1 #2 #3 % #1 label, #2 attribute, #3 default
102 {
103   \ref_value:nnn {#1}{#2}{#3}
104 }
105 \cs_generate_variant:Nn \__tag_ref_value:nnn {enn}
106 \cs_new:Npn \__tag_ref_value_lastpage:nn #1 #2
107 {
108   \ref_value:nnn {__tag_LastPage}{#1}{#2}
109 }
110
111
112 \NewDocumentCommand \tagpdfsetup { m }{}
113
114 \cs_set_eq:NN\tagpdfifluatexTF \sys_if_engine_luatex:TF
115 \cs_set_eq:NN\tagpdfifluatexT \sys_if_engine_luatex:T
116 \cs_set_eq:NN\tagpdfifpdfTeXT \sys_if_engine_pdfTeX:T
117 \cs_new:Npn \tagpdfget #1 {}
118 \cs_new:Npn \uftag_get:n #1 {}
119
120 \NewDocumentCommand \tagmcfifinTF { m m }{}
121
122 \NewDocumentCommand \tagmcbegin { m }{%
123   \tag_mc_begin:n {#1}%\ignorespaces
124 }
125
126 \cs_new_protected:Npn \tag_mc_begin:n #1 % #1 keyval
127 {
128   \keys_set:nn { __tag / mc } {#1}
129 }
130
131 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
132
133 \NewDocumentCommand \tagmcuse { m }{}
134
135 \cs_new_protected:Nn \uftag_mc_use:n {}
136
137 \NewDocumentCommand \tagstructbegin { m }
138 {
139   \tag_struct_begin:n {#1}
```

```

140 }
141
142 \cs_new_protected:Npn \tag_struct_begin:n #1 %#1 key-val
143 {
144   \keys_set:nn { __tag / struct } { #1 }
145 }
146
147
148 \NewDocumentCommand \tagstructend { }
149 {
150   \tag_struct_end:
151 }
152
153 \cs_new_protected:Nn \tag_struct_end:
154   {\ThisAltText{}}
155
156 \NewDocumentCommand \tagstructuse { m }{}
157
158 \NewDocumentCommand \ShowTagging { m }
159   {}
160
161 \sys_if_engine luatex:T
162 {
163   \NewDocumentCommand \pdffakepace { }
164   {}
165 }
166
167 \newcommand \tagpdfparaOn {}
168
169 \newcommand \tagpdfparaOff{}
170
171 \NewDocumentCommand \tagpdfsuppressmarks{m}{}
172
173 \ExplSyntaxOff

```

---

File 489 **lwarp-tascmac.sty**

§ 598 Package **tascmac**

Pkg tascmac

tascmac is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]
2 \newenvironment*{boxnote}
3   {
4     \BlockClass[
5       padding: .5ex ;
6       border: 1px solid black ;
7       border-top: 1px dashed black ;
8     ]{boxnote}
9   }
10  {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13   {
14     \BlockClass[
15       padding: .5ex ;

```

```
16         border: 1px solid gray ;
17         border-radius: 8pt
18     ]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][[]
23     {
24         \BlockClass[
25             padding: .5ex ;
26             border: 1px solid gray ;
27             border-radius: 8pt
28         ]{boxnote}
29         \InlineClass{itemboxtitle}{#2}\par
30     }
31     {\endBlockClass}
32
33 \newenvironment*{shadebox}
34     {
35         \BlockClass[
36             padding: .5ex ;
37             border: 1px solid black ;
38             box-shadow: 3px 3px 3px \#808080 ;
39         ]{boxnote}
40     }
41     {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44     \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48     \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52     \InlineClass[
53         background: lightgray ;
54         border: #5 solid black
55     ]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][[]{%
59     \InlineClass[%
60         padding: .2ex ;
61         border: 1px solid black ;
62         border-radius: .7ex ;
63     ]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
```



---

```
76 \def\ASCII{ASCII Corporation}
```

---

File 490 **lwarp-tcolorbox.sty**

§ 599 Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

Pkg tcolorbox

tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]
```

```
2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}
```

Colors are supported via HTML styles:

```
4 \newcommand{\LWR@tcolorbox@findcolors}{%
5   \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6   \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7   \iftcb@titlefilled%
8     \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9   \else
10    \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11  \fi
12  \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13  \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14  \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18   border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19   border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20   background: \LWR@origpound\LWR@tcbcolbacktitle ;
21   color: \LWR@origpound\LWR@tcbcoltitle ;
22 }
```

The title is placed inside its own <div> of class tcolorboxtitle.

```
23 \newcommand*{\LWR@showtitle@[1]}{%
24   \begin{BlockClass}[
25     \LWR@tcolorbox@titlecolorstyles
26   ]{tcolorboxtitle}
27 %       \cmdKV@LWR@tcolorbox@title\par
28   \kvtcb@before@title#1\kvtcb@after@title
29   \end{BlockClass}
30 }
```

If no title, a non-breakable space is used to take some vertical space.

```
31 \newcommand*{\LWR@showtitle@[1]}{%
32   \iftcb@titlevisible
33   \LWR@showtitle@{#1}
34   \else
```

```

35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*\LWR@tcolorbox@dophantom}{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*\LWR@tcolorboxstart}[1]{
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53 ]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefined\kvtcb@title}
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62 ]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kvtcb@float\empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float\empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][
85   {
86     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87     {
88       \PackageError{lwarp}
89         {%
90           Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91             or SVG math.\MessageBreak
92             Enter 'H' for possible solutions%
93         }
94       {%
95         Use \protect\tcbbox, \protect\tcbboxmath, or
96         \protect\tcbhighmath\space instead.\MessageBreak%
97         (Inside math, you probably want to use these anyhow.)%
98       }
99     }\relax}
100   \LWR@printpendingfootnotes
101   \tcb@layer@inc
102   \tcb@apply@box@options{#1}
103   \LWR@tcolorbox@dostartfloat%
104 %   \tcbset{title=#1}
105   \boolfalse{LWR@havetcblower}
106   \LWR@tcolorboxstart{tcolorbox}
107   \tcb@insert@before@upper%
108 }
109 {
110   \ifbool{LWR@havetcblower}{%
111     \tcb@insert@after@lower%
112   }{%
113     \tcb@insert@after@upper%
114   }%
115   \end{BlockClass}
116   \LWR@printpendingfootnotes
117   \tcb@layer@dec
118   \end{BlockClass}
119   \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. \tcblower is only temporarily defined where appropriate, so the HTML version is defined globally via \newcommand instead of \renewcommand.

```

121 \newcommand{\tcblower}{
122   \tcb@insert@after@upper%
123   \end{BlockClass}
124   \begin{BlockClass}[%
125     border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126     color: \LWR@origpound\LWR@tcbcollower ;
127   ]{tcolorboxlower}
128   \tcb@insert@before@lower%
129 }

```

Starred and unstarred \tcbline are simple \hrules.

```

130 \AtBeginDocument{

```

```

131 \ifdef{\tcbline}{
132   \newcommand*\LWR@sub@tcbline}{%
133     \begin{BlockClass}{hrule}
134     \end{BlockClass}
135   }
136   \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
137   \LWR@formatted{tcbline}
138 }{}
139 }
140
141 \newcommand{\LWR@HTML@tcbox}[2][{}{
142   \LWR@printpendingfootnotes
143   \LWR@tcolorbox@dostartfloat%
144   \begingroup
145   \tcb@layer@inc
146   \tcb@apply@box@options{#1}
147 %   \tcbset{title=#1}
148   \boolfalse{LWR@havetcblower}
149   \LWR@tcolorboxstart{tcolorbox inlineminipage}
150   \tcb@insert@before@upper%
151   #2
152   \ifbool{LWR@havetcblower}{%
153     \tcb@insert@after@lower%
154   }{%
155     \tcb@insert@after@upper%
156   }%
157   \end{BlockClass}
158   \LWR@printpendingfootnotes
159   \end{BlockClass}
160   \tcb@layer@dec%
161   \endgroup%
162   \LWR@tcolorbox@dostartfloat%
163   \global\booltrue{LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbox}
166
167 \appto\LWR@restoreMathJaxformatting{%
168   \renewcommand{\tcbox}[2][{}{#2}%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173   {}
174   {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177   {\endgroup}
178   {\end{BlockClass}\endgroup}
179   {}
180   {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

\tcboxfit is the same as \tcbox.

```

181 \AtBeginDocument{
182   \ifdef{\tcboxfit}{%
183     \let\LWR@HTML@tcboxfit\tcbox%
184     \LWR@formatted{tcboxfit}

```

```
185   }{}
186 }
```

`\tcbttitle` is patched to support the text font.

```
187 \LetLtxMacro\LWR@HTML@tcbttitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbttitle}
189   {\kvtcb@before@title\tcbtitletext}
190   {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbttitletext}}}
191   {}
192   {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbttitle}}
193 \LWR@formatted{tcbtitle}
```

List-of:

```
194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}
```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcbboxmath` and `\tcbhighmath` are ignored for HTML.

```
195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}{
197
198   \def\LWR@HTML@tcb@hack@amsmath{%
199     \PackageError{lwarp}
200     {%
201       tcolorbox ‘math’, ‘ams equation’, and related\MessageBreak
202       are not supported.\MessageBreak
203       \protect\tcbboxmath\space and
204       \protect\tcbhighmath\space are emulated.\MessageBreak
205       Enter ‘H’ for possible solutions%
206     }
207     {%
208       Remove tcolorbox math-related options, and instead\MessageBreak
209       use the usual math environments inside each tcolorbox.%
210     }
211   }
212   \LWR@formatted{tcb@hack@amsmath}
213
214   % Cause an error if using math:
215   \tcbset{%
216     math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217     math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218   }
219
220   \appto\LWR@restoreorigformatting{%
221     \tcbset{%
222       math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223       math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224     }%
225   }
226
227   \newcommand{\LWR@HTML@tcbboxmath}[2][{}]{#2}
228   \LWR@formatted{tcbboxmath}
229   \newcommand{\LWR@HTML@tcbhighmath}[2][{}]{#2}
230   \LWR@formatted{tcbhighmath}
231   \appto\LWR@restoreMathJaxformatting{%
232     \renewcommand{\tcbboxmath}[2][{}]{#2}%
233     \renewcommand{\tcbhighmath}[2][{}]{#2}%

```

```

234 }
235 }{}% theorems loaded
236 }% AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{} }
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{} }
239 \CustomizeMathJax{\newcommand{\tcbbox}[2][\boxed{\text{#2}}]}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][\boxed{#2}} }
241 \CustomizeMathJax{\newcommand{\tcblower}{} }
242 \CustomizeMathJax{\newcommand{\tcbline}{} }
243 \CustomizeMathJax{\newcommand{\tcbtitle}{} }
244 \CustomizeMathJax{\newcommand{\tcbstitle}[2][\mathrm{#2}]}
245 \CustomizeMathJax{\newcommand{\tcbboxmath}[2][\boxed{#2}} }
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{#2}} }

```

---


File 491 **lwarp-tensor.sty**

§ 600 Package **tensor**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg tensor

**tensor** is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesub#1#2{{_#2}}\LWRtensorindicesthree}}
4 \CustomizeMathJax{\def\LWRtensorindicesub#1#2{{^#2}}\LWRtensorindicesthree}}

```

If not a superscript nor a subscript, processing stops.

```

5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreeotsup}{} }

```

Check ahead for a superscript or a subscript.

```

6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreeotsub}{
7   \ifnextchar ^ \LWRtensorindicesthreeotsup \LWRtensorindicesthreeotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{
11   \ifnextchar _ \LWRtensorindicesthreeotsub \LWRtensorindicesthreeotsup
12 }}

```

Ignore star.

```

13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo}{

```

```
14 \ifstar\LWRtensorindicesthree\LWRtensorindicesthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicestwo#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][{}]{\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an svg image.

```
19 \CustomizeMathJax{%
20   \newcommand{\LWRnuclidetwo}[2][[]]{%
21     {%
22       \vphantom{\mathrm{#2}}%
23       }^{\LWRtensornucleonnumber}_{#1}%
24       \mathrm{#2}%
25     }%
26   }%
27 }

28 \CustomizeMathJax{%
29   \newcommand{\nuclide}[1][[]]{%
30     \def\LWRtensornucleonnumber{#1}%
31     \LWRnuclidetwo%
32   }%
33 }
34 \end{warpMathJax}
```

---

File 492 **lwarp-termcal.sty**

§ 601 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg termcal

termcal is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```
2 \xpatchcmd{\endcalendar}
3   {@{}}
4   {}
5   {}
6   {\LWR@patcherror{termcal}{endcalendar}}
```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8   {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9   {%
10    \calprintdate\hfill\ifclassday\calprintclass\fi%
11   }
12   {}
13   {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15   {&}
16   {\LWR@tabularampersand}
17   {}
18   {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21   {&}
22   {\LWR@tabularampersand}
23   {}
24   {\LWR@patcherror{termcal}{calday B}}

```

---

File 493 **lwarp-textarea.sty**

§ 602 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg textarea

textarea is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\empty

```

---

File 494 **lwarp-textcomp.sty**

§ 603 Package **textcomp**

*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

Pkg textcomp


textcomp is patched for use by lwarp.

For MATHJAX, the MATHJAX packge is used.



### § 603.1 Limitations

Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system / browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

### § 603.2 Package loading

**for HTML output:** `1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]`

### § 603.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaATeX` and `X3LaTeX`.

#### § 603.3.1 pdfLaTeX symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdfLatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLunicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLunicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLunicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLunicode{2045}}
9 \newcommand*\LWR@HTML@textrquill{\HTMLunicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLunicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLunicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLunicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLunicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLunicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLunicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLunicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLunicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLunicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLunicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLunicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLunicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\}%
23 \newcommand*\LWR@HTML@textservicemark{\HTMLunicode{2120}}
24 \else

```

#### § 603.3.2 X<sub>3</sub>LaTeX and Lua<sup>A</sup>TeX symbols

NOTE: Some of the following do not print well in the listing. Consult the `.dtx` or `.sty` file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree{\°}
26 \newcommand*\LWR@HTML@textcelsius{\°C}
27 \newcommand*\LWR@HTML@textohm{\Ω}
28 \newcommand*\LWR@HTML@textmu{\μ}
29 \newcommand*\LWR@HTML@textlquill{\{}}
30 \newcommand*\LWR@HTML@textrquill{\}}
31 \newcommand*\LWR@HTML@textcircledP{\Ⓟ}

```

```

32 \newcommand*\LWR@HTML@texttwelveudash}{-}% emdash
33 \newcommand*\LWR@HTML@textthreequartersemdash}{-}% emdash
34 \newcommand*\LWR@HTML@textmho}{\U}
35 \newcommand*\LWR@HTML@textnaira}{\#}
36 \newcommand*\LWR@HTML@textpeso}{\P}
37 \newcommand*\LWR@HTML@textrecipe}{\R}
38 \newcommand*\LWR@HTML@textinterrobang}{\?}
39 \newcommand*\LWR@HTML@textinterrobangdown}{\d}
40 \newcommand*\LWR@HTML@textperthousand}{\}
41 \newcommand*\LWR@HTML@textpertenthousand}{\%}
42 \newcommand*\LWR@HTML@textbaht}{\B}
43 \newcommand*\LWR@HTML@textdiscount}{\%}
44 \newcommand*\LWR@HTML@textservicemark}{\SM}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 603.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{\#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{\#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{\#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{\#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{\#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{\#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLUnicode{030B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{\#1\HTMLUnicode{030A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{\#1\HTMLUnicode{030C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{\#1\HTMLUnicode{0306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{\#1\HTMLUnicode{0304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLUnicode{0307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
82 }

```

```

83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}

```

Nullify textcomp macros when generating filenames:

```

99 \FilenameNullify{%
100   \renewcommand*\textdegree{}}%
101   \renewcommand*\textcelsius{}}%
102   \renewcommand*\textohm{}}%
103   \renewcommand*\textmu{}}%
104   \renewcommand*\textlquill{}}%
105   \renewcommand*\textrquill{}}%
106   \renewcommand*\textcircledP{}}%
107   \renewcommand*\texttwelveudash{}}%
108   \renewcommand*\textthreequartersemdash{}}%
109   \renewcommand*\textmho{}}%
110   \renewcommand*\textnaira{}}%
111   \renewcommand*\textpeso{}}%
112   \renewcommand*\textrecipe{}}%
113   \renewcommand*\textinterrobang{}}%
114   \renewcommand*\textinterrobangdown{}}%
115   \renewcommand*\textperthousand{}}%
116   \renewcommand*\textpertenthousand{}}%
117   \renewcommand*\textbaht{}}%
118   \renewcommand*\textdiscount{}}%
119   \renewcommand*\textservicemark{}}%
120   \renewcommand*\textcircled}[1]{#1}%
121   \renewcommand*\capitalcedilla}[1]{#1}%
122   \renewcommand*\capitalogonek}[1]{#1}%
123   \renewcommand*\capitalgrave}[1]{#1}%
124   \renewcommand*\capitalacute}[1]{#1}%
125   \renewcommand*\capitalcircumflex}[1]{#1}%
126   \renewcommand*\capitaltilde}[1]{#1}%
127   \renewcommand*\capitaldieresis}[1]{#1}%
128   \renewcommand*\capitalhungarumlaut}[1]{#1}%
129   \renewcommand*\capitalring}[1]{#1}%
130   \renewcommand*\capitalcaron}[1]{#1}%
131   \renewcommand*\capitalbreve}[1]{#1}%
132   \renewcommand*\capitalmacron}[1]{#1}%
133   \renewcommand*\capitaldotaccent}[1]{#1}%
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

For MATHJAX:

---

```
137 \CustomizeMathJax{\require{textcomp}}
```

---

File 495 **lwarp-textfit.sty**

§ 604 Package **textfit**

Pkg textfit

textfit is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]
2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7   1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

File 496 **lwarp-textpos.sty**

§ 605 Package **textpos**

Pkg textpos

textpos is emulated.

*(Emulates or patches code by NORMAN GRAY.)*

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]
2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3]{}{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}

```

---

```

11 \newcommand*\textblockrulecolor}[1]{}
12 \newcommand*\tekstblokkulur}[1]{}
13 \newcommand*\tekstblokrulekulur}[1]{}
14 \newlength\TPHorizModule
15 \newlength\TPVertModule
16 \newlength\TPboxrulesize
17 \newcommand*\textblocklabel}[1]{}
18 \newcommand*\showtextsize{}
19 \newcommand*\textblockorigin}[2]{}
20 \newcommand*\TPOptions}[1]{}
21 \newcommand*\TPReferencePosition}[1]{}

```

---

File 497 **lwarp-theorem.sty**

§ 606 Package **theorem**

*(Emulates or patches code by FRANK MITTELBACH.)*

theorem is patched for use by lwarp.

---

Table 21: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

**for HTML output:** 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

### § 606.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4   \@ifundefined{th@#1}{\@warning
5     {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6     \theorem@style{plain}%
7     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8     }%
9   {%
10    \theorem@style{#1}%
11    \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12  }%
13  \begingroup
14    \csname th@the\theorem@style \endcsname
15  \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnthm#1#2[#3]{%
17   \expandafter\ifdefinable\csname #1\endcsname
18   {%
19     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
20     \definecounter{#1}\@newctr{#1}[#3]%
21     \expandafter\xdef\csname the#1\endcsname
22       {\expandafter \noexpand \csname the#3\endcsname
23         \@thmcountersep \@thmcounter{#1}}}%
24     \def\@tempa{\global\@namedef{#1}}}%
25     \expandafter \@tempa \expandafter{%
26       \csname th@the \theorem@style
27         \expandafter \endcsname \the \theorem@bodyfont
28         \@thm{#1}{#2}}}%
29     \global \expandafter \let \csname end#1\endcsname \@endtheorem
30     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31   }}
32
33 \gdef\ynthm#1#2{%
34   \expandafter\ifdefinable\csname #1\endcsname
35   {
36     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
37     \definecounter{#1}%
38     \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
39     \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
40     \expandafter{\csname th@the \theorem@style \expandafter
41       \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}}%
42     \global \expandafter \let \csname end#1\endcsname \@endtheorem
43     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44   }}
45
46 \gdef\@othm#1[#2]#3{%
47   \expandafter\ifx\csname c@#2\endcsname\relax
48     \@nocounterr{#2}%
49   \else
50     \expandafter\ifdefinable\csname #1\endcsname
51     {
52       \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
53       \expandafter \xdef \csname the#1\endcsname
54         {\expandafter \noexpand \csname the#2\endcsname}%
55       \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
56       \expandafter{\csname th@the \theorem@style \expandafter
57         \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}}%
58       \global \expandafter \let \csname end#1\endcsname \@endtheorem
59       \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60     }%
61   \fi}

```

## § 606.2 **css patches**

The following are patched for CSS.

These were in individual files `thp.sty` for plain, `thmb.sty` for margin break, etc. They are gathered together here.

Each theorem is encased in a `BlockClass` environment of class `theorembody<style>`.

Each header is encased in an `InlineClass` of class `theoremheader`.

```

62 \gdef\th@plain{%
63   \def\@begintheorem##1##2{%

```

```

64     \item[
65         \InlineClass{theoremheader}{##1\ ##2}
66     ]
67 ]%
68 \def\@opargbegintheorem##1##2##3{%
69     \item[
70         \InlineClass{theoremheader}{##1\ ##2\ (##3)}
71     ]
72     }
73 }
74
75 \gdef\th@break{%
76     \def\@begintheorem##1##2{%
77         \item[
78             \InlineClass{theoremheader}{##1\ ##2}\newline%
79         ]
80     }%
81 \def\@opargbegintheorem##1##2##3{%
82     \item[
83         \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
84     ]
85     }
86 }
87
88 \gdef\th@marginbreak{%
89     \def\@begintheorem##1##2{%
90         \item[
91             \InlineClass{theoremheader}{##2 \quad ##1}\newline
92         ]
93     }%
94 \def\@opargbegintheorem##1##2##3{%
95     \item[
96         \InlineClass{theoremheader}{##2 \quad ##1\ %
97             (##3)}\newline
98     ]
99     }
100 }
101
102 \gdef\th@changebreak{%
103     \def\@begintheorem##1##2{%
104         \item[
105             \InlineClass{theoremheader}{##2\ ##1}\newline
106         ]
107     }%
108 \def\@opargbegintheorem##1##2##3{%
109     \item[
110         \InlineClass{theoremheader}{ ##2\ ##1\ %
111             (##3)}\newline
112     ]
113     }
114 }
115
116 \gdef\th@change{%
117     \def\@begintheorem##1##2{%
118         \item[
119             \InlineClass{theoremheader}{##2\ ##1}
120         ]
121     }%
122 \def\@opargbegintheorem##1##2##3{%
123     \item[

```

```

124     \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125   ]
126   }
127 }
128
129 \gdef\th@margin{%
130   \def\@begintheorem##1##2{
131     \item[
132       \InlineClass{theoremheader}{##2 \quad ##1}
133     ]
134   }%
135 \def\@opargbegintheorem##1##2##3{%
136   \item[
137     \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
138   ]
139   }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp

143   \LWR@printpendingfootnotes%           lwarp

144   \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
145   \trivlist
146   \@topsep \theorempreskipamount         % used by first \item
147   \@topsepadd \theorempostskipamount     % used by \@endparenv
148   \@ifnextchar [%
149     {\@ythm{#1}{#2}}%
150     {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
151
152 \gdef\@endtheorem{%
153 \endtrivlist

154   \LWR@printpendingfootnotes%           lwarp

155 \endBlockClass
156 }

```

---

File 498 **lwarp-thinsp.sty**

§ 607 Package **thinsp**

Pkg thinsp thinsp is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*{\stretchthinspace}{\thinspace}

```



```
8 \newcommand*\stretchthinthispace}{\thinthispace}
9 \newcommand*\stretchnegthispace}{\negthispace}
```

---

File 499 **lwarp-thm-listof.sty**

§ 608 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

Pkg thm-listof

thm-listof is part of thmtools, and is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```
2 \IfPackageAtLeastTF{thm-listof}{2020/08/01}{% v0.72
3   \def\thmtlo@newentry{%
4     \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5   }
6 }{% earlier than v0.72
7   \xpatchcmd{\listoftheorems}
8     {%
9       \@xa\protected@edef\csname l@thmt@envname\endcsname{%
10        \@nx@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
11      }%
12    }
13    {%
14      \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15    }
16    {}
17    {\LWR@patcherror{thm-listof}{listoftheorems}}
18
19   \xpatchcmd{\thmt@mklisctcmd}
20     {%
21       \@xa\protected@edef\csname l@thmt@envname\endcsname{%
22        \@nx@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23      }%
24    }
25    {%
26      \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27    }
28    {}
29    {\LWR@patcherror{thm-listof}{thmt@mklisctcmd}}
30 }
```

---

File 500 **lwarp-thm-restate.sty**

§ 609 Package **thm-restate**

(Emulates or patches code by ULRICH M. SCHWARZ.)

Pkg thm-restate

thm-restate is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \xpatchcmd{\thmt@restatable}
3   {\@ifstar}
4   {\edef\LWR@thisthmstyle{#2}\@ifstar}
5   {}
6   {\LWR@patcherror{thm-restate}{thmt@restatable}}
```

---

File 501 **lwarp-thmbox.sty**

§ 610 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox

thmbox is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][[%
3   {%
4     \begin{BlockClass}{thmbox}
5     \begin{BlockClass}{thmboxtitle}
6     #2
7     \end{BlockClass}
8   }
9   {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][[%
12   {%
13     \begin{BlockClass}{thmboxproof}%
14     \InlineClass{thmboxproofname}{\proofname\ #1\unskip\, :}
15   }
16   {%
17     \quad\HTMLUnicode{220E}
18     \end{BlockClass}
19   }
20
21 \renewenvironment{example}[1][\examplename]%
22   {%
23     \begin{BlockClass}{thmboxexample}%
24     \InlineClass{thmboxexamplename}{#1\, :}
25   }
26   {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][[%
29   {\begin{BlockClass}{thmboxleftbar}}
30   {\end{BlockClass}}
```

---

File 502 **lwarp-thmtools.sty**

§ 611 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thmtools

thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3   \InlineClass{amsthmnumbertheorem}{\NUMBER}
4   \
5   \InlineClass{amsthmnametheorem}{\NAME}
6   \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 503 **lwarp-threadcol.sty**
§ 612 Package **threadcol**

Pkg threadcol

threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```

2 \newcommand{\setthreadname}[1]{}

```

---

File 504 **lwarp-threeparttable.sty**
§ 613 Package **threeparttable***(Emulates or patches code by DONALD ARSENEAU.)*

Pkg threeparttable

threeparttable is emulated.

Table note are contained inside a CSS <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional CSS <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable

```

[<alignment>]

2 \newenvironment*{threeparttable}[1][b]
3   {\def\@capttype{table}}
4   {}

```

Env tablenotes

```

[<options>]

5 \newenvironment*{tablenotes}[1][]
6 {}
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%

```

```

9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

```

\tnote

`{\langle text \rangle}`

```
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}
```

Env measuredfigure

`[\langle alignment \rangle]`

```
16 \newenvironment*{measuredfigure}[1][t]
17   {\def\@capttype{figure}}
18   {}

```

File 505 **lwarp-threeparttablex.sty**

§ 614 Package

**threeparttablex**

Pkg threeparttablex

threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}[ [column specifiers] ]
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]`

The width is guessed depending on the number of columns, then limited to a min/max.

```
2 \renewcommand\insertTableNotes{%
```

---

```

3   \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4   \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5   \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7     \parbox{\LWR@templengthone}{%
8       \begin{tablenotes}[\TPTL@optarg]%
9         \TPTL@font%
10        \TPTL@body%
11        \end{tablenotes}%
12      }%
13    }%
14  }

15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

File 506 **lwarp-thumb.sty**

§ 615 Package **thumb**

Pkg thumb thumb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```

2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

File 507 **lwarp-thumbs.sty**

§ 616 Package **thumbs**

Pkg thumbs thumbs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```

2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}

```


---

File 508 **lwarp-tikz.sty**

§ 617 Package **tikz**

*(Emulates or patches code by TILL TANTAU.)*

Pkg tikz tikz is supported.

 **displaymath and matrices** If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

Accept all options for `lwarp-tikz`:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** `lwarp` changes the catcode of `$` for its own use. The `Tikz babel` library temporarily changes catcodes back to normal for `Tikz`'s use. `tikz v3.0.0` introduced the `babel` library which handles catcode changes. For older versions, `lwarp` must change `$`'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{LWR@tikzbabel}
3
4 \IfPackageAtLeastTF{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env `pgfpicture` The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `lateximage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```
7 \preto\pgfpicture{%
8   \begin{lateximage}[-tikz-~\PackageDiagramAltText]%
9     \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10    {%
11      {\catcode'\$=3}% dollar sign is math shift
12    }
13  }
14 \appto\endpgfpicture{\end{lateximage}}
```

`Tikz` is placed inside an `svg` image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright
20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
```

```

27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

File 509 **lwarp-tikz-imagelabels.sty**

§ 618 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

Pkg tikz-imagelabels tikz-imagelabels is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]
2 \BeforeBeginEnvironment{annotationimage}{%
3   \begin{lateximage}[-tikz-imagelabels-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}

```

---

File 510 **lwarp-titlesp.sty**

§ 619 Package **titlesp**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titlesp titlesp is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesp:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titlesp}[2016/03/15]

```

`\pagestyle` and `\thispagestyle` are already disabled in the lwarp code.

```

\newpagestyle      {<name> [<style>] {<commands>}}
2 \NewDocumentCommand{\newpagestyle}{m o m}{ }

```

```

\renewpagestyle    {<name> [<style>] {<commands>}}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{ }

```

```

\sethead           [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
4 \NewDocumentCommand{\sethead}{o o o m m m}{ }

```

```

\setfoot           [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
5 \NewDocumentCommand{\setfoot}{o o o m m m}{ }

```

---

|                               |                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------|
| <code>\setttitlemarks</code>  | <code>* {&lt;names&gt;}</code><br><code>6 \NewDocumentCommand{\setttitlemarks}{s m}{}</code> |
| <code>\headrule</code>        | <code>7 \newcommand*{\headrule}{}</code>                                                     |
| <code>\footrule</code>        | <code>8 \newcommand*{\footrule}{}</code>                                                     |
| <code>\setheadrule</code>     | <code>{&lt;length&gt;}</code><br><code>9 \newcommand*{\setheadrule}[1]{}</code>              |
| <code>\setfootrule</code>     | <code>{&lt;length&gt;}</code><br><code>10 \newcommand*{\setfootrule}[1]{}</code>             |
| <code>\makeheadrule</code>    | <code>11 \newcommand*{\makeheadrule}{}</code>                                                |
| <code>\makefootrule</code>    | <code>12 \newcommand*{\makefootrule}{}</code>                                                |
| <code>\setmarkboth</code>     | <code>{&lt;code&gt;}</code><br><code>13 \newcommand{\setmarkboth}[1]{}</code>                |
| <code>\widenhead</code>       | <code>14 \NewDocumentCommand{\widenhead}{s o o m m}{}</code>                                 |
| <code>\bottitlemarks</code>   | <code>15 \newcommand*{\bottitlemarks}{}</code>                                               |
| <code>\toptitlemarks</code>   | <code>16 \newcommand*{\toptitlemarks}{}</code>                                               |
| <code>\firsttitlemarks</code> | <code>17 \newcommand*{\firsttitlemarks}{}</code>                                             |
| <code>\nexttitlemarks</code>  | <code>18 \newcommand*{\nexttoptitlemarks}{}</code>                                           |
| <code>\outertitlemarks</code> | <code>19 \newcommand*{\outertitlemarks}{}</code>                                             |



|                               |                                                                                                                         |                                                                        |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <code>\innertitlemarks</code> |                                                                                                                         | <code>20 \newcommand*\innertitlemarks{}</code>                         |
| <code>\newtitlemark</code>    | <code>* {&lt;name&gt;}</code>                                                                                           | <code>21 \NewDocumentCommand{\newtitlemark}{s m}{}</code>              |
| <code>\pretitlemark</code>    | <code>* {&lt;section&gt; } {&lt;text&gt;}</code>                                                                        | <code>22 \NewDocumentCommand{\pretitlemark}{s m m}{}</code>            |
| <code>\ifsamemark</code>      | <code>{&lt;group&gt; } {&lt;command&gt; } {&lt;&gt;true&gt; } {&lt;&gt;false&gt;}</code>                                | <code>23 \newcommand{\ifsamemark}[4]{}</code>                          |
| <code>\setfloathead</code>    | <code>* [&lt;.&gt;] [&lt;.&gt;] [&lt;.&gt;] {&lt;.&gt;} {&lt;.&gt;} {&lt;.&gt;} {&lt;extra&gt;} [ &lt;which&gt;]</code> | <code>24 \NewDocumentCommand{\setfloathead}{s o o m m m m m}{}</code>  |
| <code>\setfloatfoot</code>    | <code>* [&lt;.&gt;] [&lt;.&gt;] [&lt;.&gt;] {&lt;.&gt;} {&lt;.&gt;} {&lt;.&gt;} {&lt;extra&gt;} [ &lt;which&gt;]</code> | <code>25 \NewDocumentCommand{\setfloatfoot}{s o o m m m m m}{}</code>  |
| <code>\nextfloathead</code>   | <code>* [&lt;.&gt;] [&lt;.&gt;] [&lt;.&gt;] {&lt;.&gt;} {&lt;.&gt;} {&lt;.&gt;} {&lt;extra&gt;} [ &lt;which&gt;]</code> | <code>26 \NewDocumentCommand{\nextfloathead}{s o o m m m m m}{}</code> |
| <code>\nextfloatfoot</code>   | <code>* [&lt;.&gt;] [&lt;.&gt;] [&lt;.&gt;] {&lt;.&gt;} {&lt;.&gt;} {&lt;.&gt;} {&lt;extra&gt;} [ &lt;which&gt;]</code> | <code>27 \NewDocumentCommand{\nextfloatfoot}{s o o m m m m m}{}</code> |
| <code>\newmarkset</code>      | <code>{&lt;markset&gt;}</code>                                                                                          | <code>28 \newcommand{\newmarkset}[1]{}</code>                          |
| <code>\newextramark</code>    | <code>* {&lt;markset&gt; } {&lt;macro-name&gt;}</code>                                                                  | <code>29 \NewDocumentCommand{\newextramarkset}{s m m}{}</code>         |
| <code>\botextramarks</code>   | <code>{&lt;markset&gt;}</code>                                                                                          | <code>30 \newcommand{\botextramarks}[1]{}</code>                       |
| <code>\topextramarks</code>   | <code>{&lt;markset&gt;}</code>                                                                                          | <code>31 \newcommand{\topextramarks}[1]{}</code>                       |
| <code>\firstextramarks</code> | <code>{&lt;markset&gt;}</code>                                                                                          | <code>32 \newcommand{\firstextramarks}[1]{}</code>                     |
| <code>\nextextramarks</code>  | <code>{&lt;markset&gt;}</code>                                                                                          | <code>33 \newcommand{\nexttopextramarks}[1]{}</code>                   |

`\outerextramarks`       $\langle\mathit{markset}\rangle$   
 34 `\newcommand{\outerextramarks}[1]{}`

`\innerextramarks`       $\langle\mathit{markset}\rangle$   
 35 `\newcommand{\innerextramarks}[1]{}`

---

File 511 **lwarp-titleref.sty**

§ 620 Package **titleref**

Pkg titleref      titleref is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8   \addtocounter{LWR@currenttitle}{1}%
9   \label{currenttitle\arabic{LWR@currenttitle}}%
10  \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}
```

---

File 512 **lwarp-titlesec.sty**

§ 621 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titlesec      titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titlesec`:

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘titlesec’.%}
2 \ProvidesPackage{lwarp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}{
8   \booltrue{LWR@loadtitleps}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16   \RequirePackage{lwarp-titleps}
```

17 }{}

`\titlelabel`             $\langle label-format \rangle$

18 `\newcommand*\titlelabel[1]{}{}`

`\titleformat*`             $\langle command \rangle \langle format \rangle$

`\titleformat`             $\langle command \rangle [\langle shape \rangle] \langle format \rangle \langle label \rangle \langle sep \rangle \langle before \rangle [\langle after \rangle]$

19 `\newcommand\titleformat%`

20    `\ifstar{\ttl@format@s}%`

21            `{\ttl@format@i}`

22 `\newcommand{\ttl@format@s}[1]{}{}`

23 `\NewDocumentCommand{\ttl@format@i}{m o m m m m o}{}`

`\chaptertitlename`

24 `\@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}`

25 `\newcommand\chaptertitlename{\@chapapp}`

`\titlespacing`            \*  $\langle command \rangle \langle left \rangle \langle before \rangle \langle after \rangle [\langle right \rangle]$

26 `\NewDocumentCommand{\titlespacing}{s m m m m o}{}`

`\filright`

27 `\newcommand*\filright{}{}`

`\filcenter`

28 `\newcommand*\filcenter{}{}`

`\filleft`

29 `\newcommand*\filleft{}{}`

`\filllast`

30 `\newcommand*\filllast{}{}`

`\filinner`

31 `\newcommand*\filinner{}{}`

`\filouter`

32 `\newcommand*\filouter{}{}`

`\wordsep`

33 `\newcommand\wordsep{\fontdimen\tw@font \@plus`

34    `\fontdimen\thr@font \@minus \fontdimen4\font}`

`\titleline`            \*  $[\langle align \rangle] \langle material \rangle$

```
35 \NewDocumentCommand{\titleline}{s o m}{}

```

`\titlerule`

`[\langle height \rangle]`

```
36 \providecommand*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}
37 \newcommand*\ttl@rule[1]{}
38 \newcommand*\ttl@row[2]{}

```

`\iftitlemeasuring`

`{\langle true \rangle} {\langle false \rangle}`

```
39 \newcommand{\iftitlemeasuring}[2]{#2}

```

`\assignpagestyle`

`{\langle command \rangle} {\langle pagestyle \rangle}`

```
40 \newcommand{\assignpagestyle}[2]{#2}

```

`\titleclass`

`{\langle name \rangle} [\langle startlevel \rangle] {\langle class \rangle} [\langle cmd \rangle]`

```
41 \NewDocumentCommand{\titleclass}{m o m o}{}

```

File 513 **lwarp-titletoc.sty**

§ 622 Package **titletoc**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titletoc

titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titletoc:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

`\dottedcontents`

`{\langle section \rangle} [\langle left \rangle] {\langle above \rangle} {\langle label \rangle} {\langle leader \rangle}`

```
2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}

```

`\titlecontents`

`* {\langle section \rangle} [\langle left \rangle] {\langle above \rangle} {\langle numbered \rangle} {\langle numberless \rangle} {\langle filler \rangle} [\langle below or begin \rangle] [\langle separator \rangle] [\langle end \rangle]`

```
3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o}{}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}

```

`\contentsmargin`

`[\langle correction \rangle] {\langle right \rangle}`

```
6 \newcommand{\contentsmargin}[2]{}

```

`\thecontentslabel`

```
7 \newcommand*\thecontentslabel{\thecontentslabel}

```

`\thecontentspage`

```
8 \newcommand*\thecontentspage{\thecontentspage}

```

|                              |                                                                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\contentslabel</code>  | <code>[\langle format \rangle] {\langle space \rangle}</code><br>9 <code>\newcommand{\contentslabel}[2][\thecontentslabel]</code>                                 |
| <code>\contentspage</code>   | <code>[\langle format \rangle]</code><br>10 <code>\newcommand{\contentspage}[1][\thecontentspage]</code>                                                          |
| <code>\contentspush</code>   | <code>{\langle text \rangle}</code><br>11 <code>\newcommand{\contentspush}[1]{}</code>                                                                            |
| <code>\contentsuse</code>    | <code>{\langle name \rangle} {\langle text \rangle}</code><br>12 <code>\newcommand{\contentsuse}[2]{}</code>                                                      |
| <code>\startcontents</code>  | <code>[\langle name \rangle]</code><br>13 <code>\newcommand*\startcontents[1][{}]</code>                                                                          |
| <code>\stopcontents</code>   | <code>[\langle name \rangle]</code><br>14 <code>\newcommand*\stopcontents[1][{}]</code>                                                                           |
| <code>\resumecontents</code> | <code>[\langle name \rangle]</code><br>15 <code>\newcommand*\resumecontents[1][{}]</code>                                                                         |
| <code>\printcontents</code>  | <code>[\langle name \rangle] {\langle prefix \rangle} {\langle start \rangle} {\langle code \rangle}</code><br>16 <code>\newcommand{\printcontents}[4][{}]</code> |
| <code>\startlist</code>      | <code>[\langle name \rangle] {\langle list \rangle}</code><br>17 <code>\newcommand{\startlist}[2][{}]</code>                                                      |
| <code>\stoplist</code>       | <code>[\langle name \rangle] {\langle list \rangle}</code><br>18 <code>\newcommand{\stoplist}[2][{}]</code>                                                       |
| <code>\resumelist</code>     | <code>[\langle name \rangle] {\langle list \rangle}</code><br>19 <code>\newcommand{\resumelist}[2][{}]</code>                                                     |
| <code>\printlist</code>      | <code>[\langle name \rangle] {\langle list \rangle} {\langle prefix \rangle} {\langle code \rangle}</code><br>20 <code>\newcommand{\printlist}[4][{}]</code>      |

---

File 514 **lwarp-titling.sty**

§ 623 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

 **load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:** `1 \LWR@ProvidesPackagePass{titling}[2009/09/04]`

**\bsmtitleempty** Patch \bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\bsmtitleempty
3 \renewcommand*{\bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

**\keepthetitle** Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

**\killtitle** Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

Env titlingpage

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of \maketitle inside the titlingpage:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```

24 \AtBeginDocument{
25   \pretitle{}
26   \posttitle{}
27
28   \preauthor{}
29   \postauthor{}
30
31   \predate{}
32   \postdate{}
33 }

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*\LWR@maketitlesetup{%
```

Redefine the footnote mark:

```

35   \def\@makefnmark{\textsuperscript{\@thefnmark}}%
        \thefootnote ⇒ \nameuse{arabic}{footnote}, or
        \thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```
36   \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```

37       \makethanksmark~%
        \makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
        \@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

38       {##1}%
39   }% \@makefntext
40 }

```

`\thanksfootmark`

```

41 \renewcommand{\thanksfootmark}{%
42 %   \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43     \thanksscript{%
44       \thanksfootpre \tamark \thanksfootpost%
45     }%
46 %   }%
47 }

```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle{%
```

An HTML titlepage <div> is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any \thanks footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
```

```
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
57 \providecommand*{\@maketitle}{}
58 \renewrobustcmd{\@maketitle}{%
59   \maketitlehooka
60   {
61     \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62     \@spretitle \@title \@bsposttitle%
63     \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64   }
65   \maketitlehookb
66   {
67     \begin{BlockClass}{author}
68     \renewcommand{\and}{%
69       \end{BlockClass}%
70       \begin{BlockClass}{oneauthor}%
71     }
72     \begin{BlockClass}{oneauthor}%
73     \@bspreauthor \@author \@bspostauthor%
74     \end{BlockClass}%
75     \end{BlockClass}%
76   }
77   \maketitlehookc
78   {
79     \begin{BlockClass}{titledate}%
80     \@bspredate \@date \@bspostdate%
81     \end{BlockClass}%
82   }
```



```
83 \maketitlehookd
84 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
85 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
92 }
```

`\thanksmarkseries` `{\series}`

Sets the type of footnote marks used by `\thanks`, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
95 }
```

Set default titlepage thanks footnote marks. See section [69.7](#).

```
96 \IfClassLoadedTF{memoir}{
97   \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100   \thanksmarkseries{arabic}
101 \else
102   \thanksmarkseries{fnsymbol}
103 \fi
104 }% not memoir
```

---

File 515 **lwarp-tocbasic.sty**

§ 624 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg tocbasic

tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{\}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{\}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{\}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{\}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{\}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m}{\}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{\}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{\}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{\}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{\}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{\}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{\}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{\}
```

---

File 516 **lwarp-tocbibind.sty**

§ 625 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocbibind

tocbibind is patched for use by lwarp.

[placement and toc options](#)

An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx

**Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg makeidx

**On its own HTML page, with a manual TOC entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

Pkg tocbibind

**Inline, with an automatic TOC entry:**

The tocbibind package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg tocbibind

**On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

Opt [tocbibind] numindex

**numbered index section**

Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

**for HTML output:**

```

1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6   \if@bibchapter
7     \if@donumindex
8       \chapter{\indexname}
9     \else
10      \if@dotocind
11        \chapter*{\indexname}
12        \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13      \else
14        \chapter*{\indexname}
15      \fi
16    \fi
17  \else
18    \if@donumindex
19      \section{\indexname}
20    \else
21      \if@dotocind
22        \section*{\indexname}
23        \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24      \else

```

```

25     \section*{\indexname}
26     \fi
27     \fi
28     \fi
29 \LetLtxMacro\item\LWR@indexitem%
30 \LetLtxMacro\subitem\LWR@indexsubitem%
31 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by anonchap.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34     \def\@chapcntformat##1{%
35         #1~\csname the##1\endcsname\simplechapterdelim\quad%
36     }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@seccntformat%
41 }

```

---

File 517 **lwarp-tocdata.sty**

§ 626 Package **tocdata**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg tocdata

tocdata is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

2 \renewcommand*{\LWR@maybetocdata}{%
3     \ifdefempty{\TD@thistocdata}}{%
4         \qqquad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5         \def\TD@thistocdata{}
6     }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10     \InlineClass{authorartist}{%
11         \qqquad --- %
12         \TDOptionalnameprint{#1}\TDOptionalnameprint{#2}#3#4%
13     }%
14 }
15
16 \@ifundefined{chapter}{}{
17     \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@setttextalign}[1]{%
23     \def\LWR@TD@textalign{justify}%
24     \ifcsstring{TD@#1align}{\centering}%

```

```

25     {\def\LWR@TD@textalign{center}}%
26     {}%
27     \ifcsstring{TD@#1align}{\raggedleft}%
28     {\def\LWR@TD@textalign{right}}%
29     {}%
30     \ifcsstring{TD@#1align}{\raggedright}%
31     {\def\LWR@TD@textalign{left}}%
32     {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36   \LWR@TD@setttextalign{#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38   \InlineClass{authorartist}{\TDoptionalnameprint{#2}\TDoptionalnameprint{#3}#4#5}%
39   \end{BlockClass}%
40 }
41
42 \newcommand*\LWR@TD@setnamealign[1]{%
43   \def\LWR@TD@textalign{justify}%
44   \ifcsstring{TD@#1textalign}{\centering}%
45   {\def\LWR@TD@textalign{center}}%
46   {}%
47   \ifcsstring{TD@#1textalign}{\raggedleft}%
48   {\def\LWR@TD@textalign{right}}%
49   {}%
50   \ifcsstring{TD@#1textalign}{\raggedright}%
51   {\def\LWR@TD@textalign{left}}%
52   {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

---

File 518 **lwarp-tocenter.sty**

§ 627 Package **tocenter**

Pkg tocenter

tocenter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]
2 \NewDocumentCommand{\ToCenter}{s o m m}{}
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{}

```

---

File 519 **lwarp-tocloft.sty**

§ 628 Package **tocloft**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocloft

tocloft is emulated. Most user options and macros are ignored and disabled.

`\newlistof` and `\cftchapterprecis` are supported.

Pkg `tocloft`

 **tocloft & other packages**

If using `tocloft` with `tocbibind`, `anonchap`, `fnycchap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

Discard all options for `lwarp-tocloft`:

**for HTML output:**

1 `\LWR@ProvidesPackageDrop{tocloft}[2017/08/31]`

`\tocloftpagestyle`

`{\langle style \rangle}`

2 `\newcommand{\tocloftpagestyle}[1]{}{}`

`\cftmarktoc`

3 `\newcommand*\cftmarktoc{}{}`

`\cfttoctitlefont`

4 `\newcommand*\cfttoctitlefont{}{}`

`\cftaftertocitle`

5 `\newcommand*\cftaftertocitle{}{}`

6 `\newlength{\cftbeforetoctitleskip}`

7 `\newlength{\cftaftertocitleskip}`

`\cftmarklof`

8 `\newcommand*\cftmarklof{}{}`

`\cftloftitlefont`

9 `\newcommand*\cftloftitlefont{}{}`

`\cftafterloftitle`

10 `\newcommand*\cftafterloftitle{}{}`

11 `\newlength{\cftbeforeloftitleskip}`

12 `\newlength{\cftafterloftitleskip}`

`\cftmarklot`

13 `\newcommand*\cftmarklot{}{}`

`\cftlottitlefont`

14 `\newcommand*\cftlottitlefont{}{}`

`\cftafterlottitle`

15 `\newcommand*\cftafterlottitle{}{}`

```

16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}

\cftdot
18 \providecommand*\cftdot}{.}

\cftdotsep
19 \providecommand*\cftdotsep}{1}

\cftnodots
20 \providecommand*\cftnodots}{5000}

\cftdotfill
  {<sep>}
21 \providecommand{\cftdotfill}[1]{

\cftsetpnumwidth
  {<length>}
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}

\cftsetrmarg
  {<length>}
23 \DeclareDocumentCommand{\cftsetrmarg}{m}{}

\cftpnumalign
  {<alignment>}
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}

25 \LWR@providelength{\cftparskip}

```

The part-related items are also provided by memoir:

```

26 \LWR@providelength{\cftbeforepartskip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*\cftpartfont}{}
30 \providecommand*\cftpartpresnum}{}
31 \providecommand*\cftpartaftersnum}{}
32 \providecommand*\cftpartaftersnumb}{}
33 \providecommand*\cftpartleader}{}
34 \providecommand*\cftpartdotsep}{1}
35 \providecommand*\cftpartpagefont}{}
36 \providecommand*\cftpartafterpnum}{}

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont}{}
41 \newcommand*\cftchappresnum}{}
42 \newcommand*\cftchapaftersnum}{}
43 \newcommand*\cftchapaftersnumb}{}
44 \newcommand*\cftchapleader}{}

```

```

45 \newcommand*\cftchapdotsep}{1}
46 \newcommand*\cftchappagefont}{}
47 \newcommand*\cftchapafterpnum}{}

```

The following do not appear in memoir:

```

48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont}{}
52 \newcommand*\cftsecpresnum}{}
53 \newcommand*\cftsecaftersnum}{}
54 \newcommand*\cftsecaftersnumb}{}
55 \newcommand*\cftsecleader}{}
56 \newcommand*\cftsecdotsep}{1}
57 \newcommand*\cftsecpagefont}{}
58 \newcommand*\cftsecafterpnum}{}

```

```

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\cftsubsecfont}{}
63 \newcommand*\cftsubsecpresnum}{}
64 \newcommand*\cftsubsecaftersnum}{}
65 \newcommand*\cftsubsecaftersnumb}{}
66 \newcommand*\cftsubsecleader}{}
67 \newcommand*\cftsubsecdotsep}{1}
68 \newcommand*\cftsubsecpagefont}{}
69 \newcommand*\cftsubsecafterpnum}{}

```

```

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\cftsubsubsecfont}{}
74 \newcommand*\cftsubsubsecpresnum}{}
75 \newcommand*\cftsubsubsecaftersnum}{}
76 \newcommand*\cftsubsubsecaftersnumb}{}
77 \newcommand*\cftsubsubsecleader}{}
78 \newcommand*\cftsubsubsecdotsep}{1}
79 \newcommand*\cftsubsubsecpagefont}{}
80 \newcommand*\cftsubsubsecafterpnum}{}

```

```

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*\cftparafont}{}
85 \newcommand*\cftparapresnum}{}
86 \newcommand*\cftparaaftersnum}{}
87 \newcommand*\cftparaaftersnumb}{}
88 \newcommand*\cftparaleader}{}
89 \newcommand*\cftparadotsep}{1}
90 \newcommand*\cftparapagefont}{}
91 \newcommand*\cftparaafterpnum}{}

```

```

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*\cftsubparafont}{}
96 \newcommand*\cftsubparapresnum}{}

```



```
97 \newcommand*\cftsubparaaftersnum}{  
98 \newcommand*\cftsubparaaftersnumb}{  
99 \newcommand*\cftsubparaleader}{  
100 \newcommand*\cftsubparadotsep}{1}  
101 \newcommand*\cftsubparapagefont}{  
102 \newcommand*\cftsubparaafterpnum}{  
  
103 \LWR@providelength{\cftbeforefigskip}  
104 \LWR@providelength{\cftfigindent}  
105 \LWR@providelength{\cftfignumwidth}  
106 \newcommand*\cftfigfont}{  
107 \newcommand*\cftfigpresnum}{  
108 \newcommand*\cftfigaftersnum}{  
109 \newcommand*\cftfigaftersnumb}{  
110 \newcommand*\cftfigleader}{  
111 \newcommand*\cftfigdotsep}{1}  
112 \newcommand*\cftfigpagefont}{  
113 \newcommand*\cftfigafterpnum}{  
  
114 \LWR@providelength{\cftbeforesubfigskip}  
115 \LWR@providelength{\cftsubfigindent}  
116 \LWR@providelength{\cftsubfignumwidth}  
117 \newcommand*\cftsubfigfont}{  
118 \newcommand*\cftsubfigpresnum}{  
119 \newcommand*\cftsubfigaftersnum}{  
120 \newcommand*\cftsubfigaftersnumb}{  
121 \newcommand*\cftsubfigleader}{  
122 \newcommand*\cftsubfigdotsep}{1}  
123 \newcommand*\cftsubfigpagefont}{  
124 \newcommand*\cftsubfigafterpnum}{  
  
125 \LWR@providelength{\cftbeforetabskip}  
126 \LWR@providelength{\cfttabindent}  
127 \LWR@providelength{\cfttabnumwidth}  
128 \newcommand*\cfttabfont}{  
129 \newcommand*\cfttabpresnum}{  
130 \newcommand*\cfttabaftersnum}{  
131 \newcommand*\cfttabaftersnumb}{  
132 \newcommand*\cfttableader}{  
133 \newcommand*\cfttabdotsep}{1}  
134 \newcommand*\cfttabpagefont}{  
135 \newcommand*\cfttabafterpnum}{  
  
136 \LWR@providelength{\cftbeforesubtabskip}  
137 \LWR@providelength{\cftsubtabindent}  
138 \LWR@providelength{\cftsubtabnumwidth}  
139 \newcommand*\cftsubtabfont}{  
140 \newcommand*\cftsubtabpresnum}{  
141 \newcommand*\cftsubtabaftersnum}{  
142 \newcommand*\cftsubtabaftersnumb}{  
143 \newcommand*\cftsubtableader}{  
144 \newcommand*\cftsubtabdotsep}{1}  
145 \newcommand*\cftsubtabpagefont}{  
146 \newcommand*\cftsubtabafterpnum}{  
  
147 \DeclareDocumentCommand{\cftsetindents}{m m m}{  
  
148 \providecommand{\cftpagenumbersoff}[1]{  
149 \providecommand{\cftpagenumberson}[1]{
```

`\newlistentry`

```

[<within>] {<counter>} {<ext>} {<level-1>}
150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155   \ifundefined{c@#2}{%
156     \newcounter{#2}[#1]%
157     \expandafter\edef\csname the#2\endcsname{%
158       \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159     }%
160   }{%
161 }%
162 {%
163   \ifundefined{c@#2}{%
164     \newcounter{#2}%
165   }{%
166 }%
167 \@namedef{l@#2}##1##2{%
168   \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169   \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2filnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

`\newlistof`

```

[<within>] {<type>} {<ext>} {<listofname>}
Emulated through the \newfloat mechanism.
186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%
188   \IfValueTF{#1}%
189     {\newlistentry[#1]{#2}{#3}{0}}%
190     {\newlistentry{#2}{#3}{0}}%
191   \@namedef{ext@#2}{#3}%
192   \ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193   \setcounter{#3depth}{1}%
194   \@namedef{cftmark#3}{}%
195   \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196   \@namedef{cftmake#3title}{}%
197   \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198   \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199   \@namedef{cft#3titlefont}{}%
200   \@namedef{cftafter#3title}{}%
201   \@namedef{cft#3prehook}{}%
202   \@namedef{cft#3posthook}{}%

```

203 }

\cftchapterprecis

{*<text>*}

```

204 \newcommand{\cftchapterprecis}[1]{%
205   \cftchapterprecishere{#1}
206   \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208   \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210   \addtocontents{toc}{%
211     {
212       \protect\begin{quote}#1\protect\end{quote}}
213   }
214 }
```

---

File 520 **lwarp-tocstyle.sty**

§ 629 Package **tocstyle**

Pkg tocstyle

tocstyle is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle[2][{}]{
3 \newcommand*\deactivatetocstyle[1][{}]{
4 \newcommand*\reactivatetocstyle[1][{}]{
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*\aliastoc[2][{}]{
9 \newcommand*\showtoc[2][{}]{
10 \newcommand{\iftochasdepth}[4][{}]
```

---

File 521 **lwarp-todo.sty**

§ 630 Package **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

Pkg todo

todo is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```

2 \renewcommand\todoitem[2]{%
3   \refstepcounter{todo}%
4   \item[%
5     \HTMLUnicode{2610} \quad%
6     \ref{todopage:\thetodo}
7   ] : {\todoformat\ifx#1\todomark\else\textbf{#1} \fi}#2%
8   \label{todolbl:\thetodo}%
9 }
```

```

10
11 \renewcommand\doneitem[2]{%
12   \stepcounter{todo}%
13   \item[%
14     \HTMLUnicode{2611} \quad%
15     \ref{todopage:\thetodo}
16   ] \@nameuse{@done\the\c@todo}:
17     {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
18 }

```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```

19 \xpatchcmd{\@displaytodo}
20   {\todoformat #1}{\todoformat \textbf{#1}}{}
21   {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
22
23 \xpatchcmd{\@displayfulltodo}
24   {\todoformat #1}{\todoformat \textbf{#1}}{}
25   {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
28   {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
31   {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}

```

If `cleveref` is in use, name the new todo notes:

```

32 \AtBeginDocument{
33 \ifdef{\crefname}{
34   \crefname{todo}{todo}{todos}
35   \Crefname{todo}{Todo}{Todos}
36 }{}
37 }

```

---

File 522 **lwarp-todonotes.sty**

§ 631 Package **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

Pkg todonotes

**todonotes** is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

```

for HTML output: 1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{ldo}{#1}{#2}}

```

```

8 \let\LWRTODONOTES@orig@todotoc\todotoc
9
10 \renewcommand*\todotoc{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todotoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17   {\@todonotes@currentbordercolor}
18   {\@todonotes@currentbackgroundcolor}
19   {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25   {\@todonotes@currentbordercolor}%
26   {\@todonotes@currentbackgroundcolor}%
27   {%
28     \if@todonotes@authorgiven%
29     {\@todonotes@author:\,}%
30     \fi%
31     \@todonotes@text%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
37     \@todonotes@author\par%
38   \fi%
39   \arabic{\@todonotes@numberoftodonotes}: %
40   \fcolorbox%
41     {\@todonotes@currentbordercolor}%
42     {\@todonotes@currentbackgroundcolor}%
43     {%
44       \@todonotes@sizecommand%
45       \@todonotes@text %
46     }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][{}]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57   {\@todonotes@currentbordercolor}%
58   {\@todonotes@currentfigcolor}%
59   {%
60     \setlength{\fboxrule}{4pt}%
61     \fcolorbox{red}{white}{Missing figure} \quad #2%
62   }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%

```

```

68 \begingroup%
69 \renewcommand*{\phantomsection}{}%
70 \IfValueTF{#1}{%
71   \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73   \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 523 **lwarp-topcapt.sty**

§ 632 Package **topcapt**

Pkg topcapt

topcapt is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]
2 \LetLtxMacro\topcaption\caption

```


---

File 524 **lwarp-tram.sty**

§ 633 Package **tram**

Pkg tram

tram is emulated.

 **block only** The HTML emulation uses a <div>, which must not appear inside an HTML <span> or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a \parbox or minipage. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```

\begin{warpHTML}
\renewenvironment{tram}[1][[]]{}{}
\end{warpHTML}

```

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]
2 \newenvironment{tram}[1][[]%
3   {\BlockClass[background:lightgray]{tram}}
4   {\endBlockClass}

```

---

File 525 **lwarp-transparent.sty**

§ 634 Package **transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg transparent

transparent is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

 **Not X<sub>g</sub>L<sup>A</sup>T<sub>E</sub>X!** Note that transparent does not work with X<sub>g</sub>L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]
2 \newcommand*\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}

```

---

File 526 **lwarp-trimclip.sty**

§ 635 Package **trimclip**

Pkg trimclip

trimclip is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

```

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

---

File 527 **lwarp-trivfloat.sty**

§ 636 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg trivfloat

trivfloat is forced to use the built-in lwarp emulation for floats.

To create a new float type and change its name:

---

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

---

Discard all options for `lwarp-trivfloat`. This tells `trivfloat` not to use `floatrow` or `memoir`.

```
1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}
```

`\tfl@chapter@fix`

Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{{}}
```

### § 636.1 **Combining `\newfloat`, `\trivfloat`, and `algorithmicx`**

**For both print and HTML output:**



When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.



When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.



When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

File 528 **`lwarp-truncate.sty`**

§ 637 Package **`truncate`**

Pkg `truncate`

`truncate` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```



---

File 529 **lwarp-turnthepage.sty**

§ 638 Package **turnthepage**

Pkg turnthepage turnthepage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

2 \newcommand{\turnthepage}{}  


---

File 530 **lwarp-twoup.sty**

§ 639 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

2 \newcommand{\cleartolastpage}{}  


---

File 531 **lwarp-txfonts.sty**

§ 640 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg txfonts txfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up[]{}{up}
8 \end{warpMathJax}
```

---

File 532 **lwarp-txgreeks.sty**

§ 641 Package **txgreeks**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg txgreek

**txgreek** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{txgreek}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreek}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8   \LWR@mathjax@addgreek@l@up{}{}
9   \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11   \LWR@mathjax@addgreek@l@it{}{}
12   \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16   \LWR@mathjax@addgreek@u@it*{}{}
17   \LWR@mathjax@addgreek@u@up*{other}{}
18   \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20   \LWR@mathjax@addgreek@u@up*{}{}
21   \LWR@mathjax@addgreek@u@it*{other}{}
22   \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

---

File 533 **lwarp-typearea.sty**

§ 642 Package **typearea**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg typearea

**typearea** is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 \ifundefined{footheight}{\newlength{footheight}}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 534 **lwarp-typicons.sty**

§ 643 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

Pkg typicons

typicons is patched for use by lwarp.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7   \begin{lateximage}*[typicon][typicon#1]%
8   \begingroup%
9   \LWR@orig@typicon@TI%
10  \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16   \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21   \begin{lateximage}*[#1 icon][typicon#1]%
22   \TI\csname ticon#1\endcsname%
23   \end{lateximage}%
24 }
```

---

File 535 **lwarp-ulem.sty**

§ 644 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg ulem

Patched for use by lwarp.

**for HTML output:** Use the original package:

```

1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using CSS:

```

2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3   \InlineClass%
```

```
4      (text-decoration:underline; text-decoration-skip: auto)%
5      {uline}{\LWR@isolate{#1}}%
6  }
7  \LWR@formatted{uline}
8
9  \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10   \InlineClass%
11   (%
12     text-decoration:underline; text-decoration-skip: auto;%
13     text-decoration-style:double%
14   )%
15   {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20   \InlineClass%
21   (%
22     text-decoration:underline; text-decoration-skip: auto;%
23     text-decoration-style:wavy%
24   )%
25   {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30   \InlineClass%
31   (text-decoration:line-through)%
32   {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37   \InlineClass%
38   (text-decoration:line-through)%
39   {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44   \InlineClass%
45   (%
46     text-decoration:underline;%
47     text-decoration-skip: auto;%
48     text-decoration-style:dashed%
49   )%
50   {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55   \InlineClass%
56   (%
57     text-decoration:underline;%
58     text-decoration-skip: auto;%
59     text-decoration-style: dotted%
60   )%
61   {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}
```

Nullified/emulated macros:

```
64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}
```

---

File 536 **lwarp-umoline.sty**

§ 645 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg umoline

umoline is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]
2 \newcommand*\LWR@HTML@Underline[1]{%
3   \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*\LWR@HTML@Midline[1]{%
8   \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*\LWR@HTML@Overline[1]{%
13   \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*\LWR@HTML@UMoline[2]{%
18   \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}
```

---

File 537 **lwarp-underscore.sty**

§ 646 Package **underscore**

Pkg underscore

underscore is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]
```


File 538 **lwarp-unicode-math.sty**

§ 647 Package **unicode-math**


(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math

unicode-math is supported as-is for HTML with SVGmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symbnormal\mathit}
```

```

9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symlb\mathbb}
11 \CustomizeMathJax{\let\symlbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 %     \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symsfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symsfsf}[1]{%
25 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symsfbfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symsfbfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symsfbcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symsfbfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symsfbfscr}[1]{
34 %     \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symsfbfrac\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symsfbfrac}[1]{%
39 %     \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symsbfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symsbfsfup}[1]{%
44 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symsbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symsbfsfit}[1]{%
49 %     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symlb\mathbf}% \symlb defined above
55 \CustomizeMathJax{\let\symlit\mathit}
56 % \CustomizeMathJax{\let\symlbit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60   {\CustomizeMathJax{\let\symsf\symsfup}}
61   {
62     \bool_if:NTF \g__um_upsans_bool
63       {\CustomizeMathJax{\let\symsf\symsfup}}
64       {\CustomizeMathJax{\let\symsf\symsfit}}
65   }
66 }
67 \ExplSyntaxOff

```

```

68% \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
69% \CustomizeMathJax{\let\symsfit\mathit}% not sans
70% \CustomizeMathJax{\let\symbfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72% \CustomizeMathJax{\let\sybbb\mathbb}
73% \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
74% \CustomizeMathJax{\let\symscr\mathscr}
75% \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
76% \CustomizeMathJax{\let\symfrac\mathfrak}
77 \CustomizeMathJax{\let\sybfrac\mathbfrac}

```

Some symbol categories defined by unicode-math, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

math-style is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88   {\LWR@mathjax@addgreek@u@up*{}}{}
89   {\LWR@mathjax@addgreek@u@it*{}}{}
90
91 \bool_if:NTF \g__um_upgreek_bool
92   {\LWR@mathjax@addgreek@l@up{}}{}
93   {\LWR@mathjax@addgreek@l@it{}}{}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()}
104 \CustomizeMathJax{\let\rparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,{}^3\!\!\sqrt{#1}}\,,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,{}^4\!\!\sqrt{#1}}\,,}

```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner#1\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner#1\lrcorner}}}}

```



```

115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{\#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{\#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{\#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{\#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\vooint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\voiiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjqunt}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjqunt}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rrpolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intLarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}

```

```

175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

File 539 **lwarp-units.sty**

§ 648 Package **units**

(Emulates or patches code by AXEL REICHERT.)

**units** is patched for use by **lwarp**.

Values are not styled by CSS, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body CSS to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][[]]{%
3 \ifblank{#1}%
4   {\LWR@textcurrentfont{#2}}%
5   {%
6     #1%
7     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8     \LWR@textcurrentfont{#2}}%
9   }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][[]]{%
13 \ifblank{#1}%
14   {%
15     \nicefrac{#2}{#3}%
16   }%
17   {%
18     #1%
19     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20     \nicefrac{#2}{#3}}%
21   }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][[]]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][[]]{#1 \mathinner{{}^{\#2}\!/_{\#3}}}}
28 \end{warpMathJax}

```

---

File 540 **lwarp-unitsdef.sty**

§ 649 Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg unitsdef

unitsdef is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \newcommand{\LWR@HTML@unitvaluesep}{\,}
3 \LWR@formatted{unitvaluesep}
4
5 \newcommand{\LWR@HTML@unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
6 \LWR@formatted{unittimes}
7
8 \newunit{\LWR@HTML@arcmin}{%
9   \HTMLUnicode{2032}% prime
10 }
11 \LWR@formatted{arcmin}
12
13 \newunit{\LWR@HTML@arcsec}{%
14   \HTMLUnicode{2033}% dbl prime
15 }
16 \LWR@formatted{arcsec}
17
18 \newrobustcmd{\LWR@HTML@SI}[2]{%
19   \begingroup%
20     \let\unit@xspace\relax%
21     \unitSIdf\selectfont%
22     \LWR@textcurrentfont{#1#2}% lwarp
23   \endgroup%
24 }
25 \LWR@formatted{SI}

```

---

File 541 **lwarp-upgreek.sty**

§ 650 Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg upgreek

upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

```

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}

```

File 542 **lwarp-upref.sty**§ 651 Package **upref**

Pkg upref

upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

File 543 **lwarp-url.sty**§ 652 Package **url**

Pkg url

*(Emulates or patches code by DONALD ARSENEAU.)*

url is patched for use by lwarp.

**for HTML output:**

```
1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString{%
5   \expandafter\LWR@url@orig@url\expandafter\{Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}
```

File 544 **lwarp-ushort.sty**§ 653 Package **ushort**

Pkg ushort

*(Emulates or patches code by MARTIN VÄTH.)*

ushort is used as-is, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4   \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

---

File 545 **lwarp-ospace.sty**

§ 654 Package **ospace**

Pkg ospace

ospace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

---

File 546 **lwarp-varioref.sty**

§ 655 Package **varioref**

Pkg varioref

*(Emulates or patches code by FRANK MITTELBACH.)*

varioref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```
2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter    {\unskip}%
5 \def\reftextbefore   {\unskip}%
6 \def\reftextcurrent  {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

---

File 547 **lwarp-verse.sty**

§ 656 Package **verse**

Pkg verse

*(Emulates or patches code by PETER WILSON.)*

verse is supported and patched by lwarp.

**for HTML output:** Pass all options for lwarp-verse:

1 \LWR@ProvidesPackagePass{verse}[2009/09/04]

When using verse or memoir, always place a \\ after each line.

\attrib

The documentation for the verse and memoir packages suggest defining an \attrib command, which may already exist in current documents, but it will only work for print output. lwarp provides \attribution, which works for both print and HTML output. To combine the two so that \attrib is used for print and \attribution is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ **spacing** Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

⚠ **verse margin**

Env `verse` The `verse` environment will be placed inside a HTML `<pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the `verse` environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original `list` environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg `verse` The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

Cls `memoir`  
`\flagverse`

Len `\vleftskip`

```
7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the `verse` environment, which places the `<pre>` tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place `poemtitle` inside an HTML `<span>` of class `poemtitle`:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\vstypeptitle}{m}{%
20 \space{\beforepoemtitleskip}%
```

```

21  {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22  \vspace{\afterpoemtitleskip}%
23  }
24  }{}
25
26  \LWR@traceinfo{Finished patching verse.}
27  }% AfterEndPreamble

```

---

File 548 **lwarp-versonotes.sty**

§ 657 Package **versonotes**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg versonotes **versonotes** is emulated.

**for HTML output:**

```

1  \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

2  \newcommand{\versonote}[1]{\marginpar{#1}}
3  \newdimen\versotextwidth
4  \newdimen\versoleftmargin
5  \newcommand*{\versolayout}{}

```

In case the user changed the page number before loading versonotes:

```

6  \setcounter{page}{1}

```

---

File 549 **lwarp-vertbars.sty**

§ 658 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg vertbars **vertbars** is emulated.

**for HTML output:**

```

1  \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

2  \newlength{\barwidth}
3  \setlength{\barwidth}{0.4pt}
4  \newlength{\barspace}
5  \setlength{\barspace}{1em}
6
7  \newenvironment{vertbar}{
8    \LWR@forcenewpage
9    \LWR@forceminwidth{\barwidth}
10   \begin{BlockClass}[%
11     border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12     padding-left: \LWR@printlength{\barspace}%
13   ]{vertbar}
14 }{
15   \end{BlockClass}
16 }

```

---

File 550 **lwarp-vmargin.sty**

§ 659 Package **vmargin**

Pkg vmargin

vmargin is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

2 \newcommand*\LWRVM@customsize}[2]{}
3 \newcommand*\setpapersize}[2][\ifstrequal{#2}{custom}\LWRVM@customsize}{}
4 \newcommand*\setmargins}[8]{}
5 \newcommand*\setmarginsrb}[8]{}
6 \newcommand*\setmargnohf}[4]{}
7 \newcommand*\setmargnohfrb}[4]{}
8 \newcommand*\setmarg}[4]{}
9 \newcommand*\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape
```

---

File 551 **lwarp-vowel.sty**

§ 660 Package **vowel**

Pkg vowel

*(Emulates or patches code by FUKUI REL.)*

vowel is patched for use by lwarp.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```
\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

2 \renewenvironment{vowel}[1][
3   {%
4     \begin{lateximage}[-vowel-~\PackageDiagramAltText]%
5     \@vowel[#1]%
6   }
7   {%
8     \@@vowel%
9     \end{lateximage}%
10  }
```



---

File 552 **lwarp-vpe.sty**

§ 661 Package **vpe**

Pkg vpe vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 553 **lwarp-vwcol.sty**

§ 662 Package **vwcol**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg vwcol vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule
  {<style tag>}
  2 \newcommand*{\LWR@vwcol@addrule}[1]{%
  3   \appto{\LWR@vwcolstyle}{%
  4     #1: %
  5     \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
  6   }%
  7 }
```

```
\LWR@vwcol@addrule
  {<style tag>}
  8 \newcommand*{\LWR@vwcol@addgap}[1]{%
  9   \appto{\LWR@vwcolstyle}{%
  10    #1: %
  11    \LWR@printlength{\vwcol@sep} ; %
  12  }%
  13 }
```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][[]]{%
```

New paragraph, and process the options:

```
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{}
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19   \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22   \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25   \LWR@vwcol@addgap{column-gap}
26   \LWR@vwcol@addgap{-moz-column-gap}
27   \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31   \ifdimless{\vwcol@rule}{1pt}{
32     \setlength{\vwcol@rule}{1pt}
33   }{ }
34   \LWR@vwcol@addrule{column-rule}
35   \LWR@vwcol@addrule{-moz-column-rule}
36   \LWR@vwcol@addrule{-webkit-column-rule}
37   \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38   \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{ }
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41   \appto{\LWR@vwcolstyle}{text-align: left ; }
42   \ifdimgreater{\vwcol@parindent}{0pt}{
43     \appto{\LWR@vwcolstyle}{%
44       text-indent: \LWR@printlength{\vwcol@parindent} ; %
45     }
46   }{ }
47 }{ }

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49   \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{ }

51 \ifdefequal{\vwcol@justify}{\Centering}{
52   \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{ }

54 \ifdefequal{\vwcol@justify}{\justifying}{
55   \appto{\LWR@vwcolstyle}{text-align: justify ; }
56   \ifdimgreater{\vwcol@parindent}{0pt}{
57     \appto{\LWR@vwcolstyle}{%
58       text-indent: \LWR@printlength{\vwcol@parindent} ; %
59     }
60   }{ }
61 }{ }
```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65   \endBlockClass
66   \LWR@startpars
67 }
```

---

File 554 **lwarp-wallpaper.sty**

§ 663 Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg wallpaper

wallpaper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}
9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}
```

---

File 555 **lwarp-watermark.sty**

§ 664 Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg watermark

watermark is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand\watermark}[1]{}
3 \newcommand\leftwatermark}[1]{}
4 \newcommand\rightwatermark}[1]{}
5 \newcommand\thiswatermark}[1]{}
6 \newcommand\thispageheading}[1]{}

```

---

File 556 **lwarp-widetable.sty**

§ 665 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg widetable

widetable is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]
2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}
```

---

File 557 **lwarp-widows-and-orphans.sty**

§ 666 Package **widows-and-orphans**

Pkg widows-and-orphans

widows-and-orphans is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]
2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}
```

---

File 558 **lwarp-witharrows.sty**

§ 667 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg witharrows

witharrows is patched for use by lwarp. Emulation is provided for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]
2 \ifbool{mathjax}{
3   % For the hidden print version in the HTML:
4   \newcommand{\Arrow}[2][{}]{
5     \newcommand{\unicode}[1]{
6       \NewDocumentEnvironment { DispWithArrows } { ! d < > ! 0 { } +b}
7       {
8         \IfValueTF{#1}{
9           \begin{displaymath}
10          #1 \left\lbracket
11          \begin{align}
12          #3
13          \end{align}
14          \right .
15          \end{displaymath}
16        }{
```

```

17         \begin{displaymath}
18         \begin{align}
19         #3
20         \end{align}
21         \end{displaymath}
22     }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! 0 { } +b}
26 {
27     \IfValueTF{#1}{
28         \begin{displaymath}
29         #1 \left\lbracket
30         \begin{align*}
31         #3
32         \end{align*}
33         \right .
34         \end{displaymath}
35     }{
36         \begin{displaymath}
37         \begin{align*}
38         #3
39         \end{align*}
40         \end{displaymath}
41     }
42 }
43 {}
44 }{
45     % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48     \begin{BlockClass}{displaymathnumbered}%
49     \begin{lateximage}%
50     }
51 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53     \begin{BlockClass}{displaymath}%
54     \begin{lateximage}%
55     }
56 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
57 }
58
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][]{&{\Large\unicode{x2938}}~\textit{#2}}}
63 \end{warpMathJax}

```

---

File 559 **lwarp-wrapfig.sty**

§ 668 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig

wrapfig is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```

2 \newcommand*\LWR@wrapposition}{
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7   \IfPackageLoadedTF{keyfloat}{
8     \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9       \ifboolexpr{
10         test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11         bool {KFLT@inkeysubfloats}
12       }%
13       {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}\%; }%
14       {\LWR@printlength{\LWR@templengthone}}%
15     }%
16   }{
17 }
18
19 \newcommand*\LWR@subwrapfigure}[2]{%
20   \renewcommand*\LWR@wrapposition}{}%
21   \ifthenelse{%
22     \equal{#1}{r}\OR\equal{#1}{R}\OR%
23     \equal{#1}{o}\OR\equal{#1}{O}%
24   }%
25     {\renewcommand*\LWR@wrapposition}{float:right}}%
26     {\renewcommand*\LWR@wrapposition}{float:left}}%
27   \setlength{\LWR@templengthone}{#2}%
28   \LWR@BlockClassWP{%
29     width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30     margin:10pt%
31   }%
32   {%
33     width:\LWR@wrapfig@printHTMLwidth; %
34     \LWR@wrapposition; %
35   }%
36   (note)%
37   {marginblock}%
38
39   \setlength{\linewidth}{\LWR@templengthone}%
40 }
41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44   \begin{LWR@setvirtualpage}*%
45   \LWR@subwrapfigure{#2}{#4}%
46   \renewcommand*\@capttype}{figure}%
47 }
48 {%
49   \endLWR@BlockClassWP%
50   \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56   \begin{LWR@setvirtualpage}*%
57   \LWR@subwrapfigure{#2}{#4}%
58   \renewcommand*\@capttype}{table}%
59 }
60 {%

```

```

61 \endLWR@BlockClassWP%
62 \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68 \begin{LWR@setvirtualpage}*%
69 \LWR@subwrapfigure{#3}{#5}%
70 \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73 \endLWR@BlockClassWP%
74 \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

---

File 560 **lwarp-wrapfig2.sty**

§ 669 Package **wrapfig2**

*(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)*

Pkg wrapfig2

**wrapfig2** is emulated via a modified version of the wrapfig emulation.

**for HTML output:**

```

1 \@ifpackageloaded{color}{}%
2 \@ifpackageloaded{xcolor}{\LWR@origRequirePackage{xcolor}}%
3 }
4
5 \RequirePackage{float}
6
7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
8 {}% v4.0
9 {}% v5+
10 \floatstyle{plain}
11 \ifcsname chapter\endcsname
12 \newfloat{text}{tbp}{lotx}[chapter]
13 \else
14 \newfloat{text}{tbp}{lotx}
15 \fi
16 \floatname{text}{Text}
17 % \let\WF@text@caption\float@caption
18 }
19
20
21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16]
22
23 \LWR@origRequirePackage{lwarp-wrapfig}

24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}% original
25 {\wrapfloat{figure}[#1][#2][#3][#4]}%
26 {\endwrapfloat}
27
28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}% original
29 {\wrapfloat{table}[#1][#2][#3][#4]}%
30 {\endwrapfloat}

```

```

31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwarp
33 {%
34   \begin{LWR@setvirtualpage}*%
35   \LWR@subwrapfigure{#3}{#5}%
36   \renewcommand*{\@capttype}{#1}%
37 }
38 {%
39   \endLWR@BlockClassWP%
40   \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFFold}
43 {% v4.0:
44   \NewDocumentEnvironment{wraptext}%
45     {O{l} D||{0.5\columnwidth} D<>{0} D(){figure}}%
46     {%
47       \wrapfloat{#4}[]{}{#1}[]{}{#2}%
48       \tcolorbox%
49     }
50     {%
51       \endtcolorbox%
52       \endwrapfloat%
53       \ignorespaces%
54     }
55 }{}
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFFive}
58 {% v5
59   \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60   \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61   \colorlet{WFtext}{black}
62   \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63   \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
64   \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
65   \def\WFsplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67   \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
68   {%
69     \wrapfloat{text}[]{}{#2}[]{}{#4}%
70   }
71   {%
72     \endwrapfloat%
73     \ignorespaces%
74   }
75
76   \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{1pt,1ex} o}%
77   {%
78     \WFsplitdimens #3!
79     \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
80     \LWR@HTML@fcolorboxBlock%
81     [named]{WFframe}[named]{WFbackground}{#2}%
82     (%
83       color:\ \LWR@origpound\LWR@tempcolor ; %
84       border-radius:\ 1ex%
85     )%
86   }
87 }{} v6+
88 \RequirePackage{xkeyval}
89

```



```

90 \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91 \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92 \colorlet{WFtext}{black}
93 \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94 \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95 \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
96 \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
97
98 \newlength{\LWR@wrapfigtwo@radius}
99 \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101 \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102 %     \def\WFscalefactor{#1}%
103 }
104 \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105 \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}
106 \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107 \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108 \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFtxt{#1}}
109 \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110 \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111     \setlength{\LWR@wrapfigtwo@radius}{#1}%
112 }
113 \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114 %     \insertwidth=#1%
115 }
116
117 \DeclareOptionX*{\PackageWarning{wrapfig2}{'\CurrentOption' ignored}}
118
119 \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120 backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122 \ProcessOptionsX*
123
124 \NewDocumentEnvironment{wraptext}{0{0} m 0{0pt} G{0.5\columnwidth}}
125 {%
126     \wrapfloat{text}[][#2][]{#4}%
127 }
128 {%
129     \endwrapfloat%
130     \ignorespaces%
131 }
132
133 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{ } o}
134 {%
135     \ExecuteOptionsX<wraptext>{#3}%     executes possible key=value options
136     \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
137     \LWR@HTML@fcolorboxBlock%
138     [named]{WFframe}[named]{WFbackground}%
139     {\LWR@textcurrentfont{#2}}%
140     (%
141         color:\LWR@origpound\LWR@tempcolor ; %
142         border-radius:\LWR@printlength{\LWR@wrapfigtwo@radius}%
143     )%
144 }
145 }

```

---

File 561 **lwarp-xbmks.sty**

§ 670 Package **xbmks**

Pkg xbmks xbmks is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 562 **lwarp-xcolor.sty**

§ 671 Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

Pkg xcolor xcolor is supported by lwarp.

#### § 671.1 **Limitations**

**\colorboxBlock and \fcolorboxBlock** \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

**background: none** \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** \rowcolors is supported, except that the optional argument is ignored so far.

**colored text and boxes** \textcolor, \colorbox, and \fcolorbox are supported.

**\color and \pagecolor** \color and \pagecolor are ignored. Use css or \textcolor where possible.

## § 671.2 **xcolor definitions: location and timing**

The `lwarp` core and its `lwarp-xcolor` package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML lateximage. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When `lwarp-xcolor` is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**`\AtBeginDocument` in print or HTML mode:** See Section 89. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 532.

### `\color:`

**Print:** Used as-is.

**HTML:** Ignored by `pdftotext`, and will not appear.

**HTML lateximage:** Colors will appear in a `lateximage`.

### `\textcolor:`

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1223.

**HTML lateximage:** Remembers and reuses the print version.

### `\pagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a `lateximage`.

### `\nopagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a `lateximage`.

**\colorbox:****Print:** Used as-is.**HTML:** Redefined by lwarp-xcolor, page 1223.**HTML lateximage:** Remembers and reuses the print version.**\colorboxBlock:****Print:** Becomes \colorbox.**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1223.**HTML lateximage:** Remembers and reuses the print version \colorbox.**\fcolorbox:****Print:** Modified to allow a background of none.`\LWR@print@fcolorbox` at section 89**HTML:** Redefined by lwarp-xcolor, page 1224.**HTML lateximage:** Remembers and reuses the print version.**\fcolorboxBlock:****Print:** Becomes \fcolorbox. Section 89**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1224.**HTML lateximage:** Remembers and reuses the print version \fcolorbox.**fcolorminipage:****Print:** Newly defined in the lwarp core.`LWR@print@fcolorminipage` at section 89**HTML:** Newly defined by lwarp-xcolor, page 1225.**HTML lateximage:** Uses the print version.**\boxframe:****Print:** Used as-is.**HTML:** Redefined by lwarp-xcolor, page 1226.**HTML lateximage:** Remembers and reuses the print version.§ 671.3 **Package loading****for HTML output:** `1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]``\color@endgroup's \endgraf` was conflicting with lwarp's paragraph handling.`2 \let\color@endgroup\endgroup`

### § 671.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
3 \LetLtxMacro\LWR@print@pagecolor\pagecolor
4 \LetLtxMacro\LWR@print@nopcodecolor\nopcodecolor
```

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

```
5 \appto\LWR@restoreorigformatting{%
6   \LetLtxMacro\pagecolor\LWR@print@pagecolor%
7   \LetLtxMacro\nopcodecolor\LWR@print@nopcodecolor%
8 }
```

### § 671.5 `\normalcolor`

`\normalcolor`

```
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

### § 671.6 HTML color style

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
12 \renewcommand*{\LWR@findcurrenttextcolor}{%
13   \LWR@traceinfo{\LWR@findcurrenttextcolor}%
14   \protect\colorlet{\LWR@current@color}{.}%
15   \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
16   \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor\relax%
17   \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
18 }
```

Prints a color style for the current color.

`\LWR@currenttextcolorstyle`

```
19 \newcommand*{\LWR@currenttextcolorstyle}{%
20   \LWR@findcurrenttextcolor%
21   \ifdefstring{\LWR@tempcolor}{000000}%
22   {}%
23   {color: \LWR@origpound\LWR@tempcolor ; }%
24 }
```

`\LWR@textcurrentcolor` `{\text}` Like `\textcolor` but uses the current `\color` instead.

```
25 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
26   \begingroup%
27   \LWR@hook@processingtags%
28   \LWR@findcurrenttextcolor%
29   \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
30     \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
31     #1%
32   }%
33   \endgroup%
34 }
```

`\LWR@colorstyle``{\langle 1: model \rangle} {\langle 2: color \rangle}`

For a color style, prints the color converted to HTML colors.

```
35 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
36   \begingroup%
37   \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```
38   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
39   \LWR@origpound\LWR@tempcolor%
40   \endgroup%
41 }
```

`\LWR@backgroundcolor``[\langle model \rangle] {\langle color \rangle} {\langle text \rangle}`

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```
42 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
43   \begingroup%
44   \LWR@hook@processingtags%
45   \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
46     #3%
47   }%
48   \endgroup%
49 }
```

### § 671.7 HTML border

`\LWR@borderpadding``{\langle colorstyle \rangle} {\langle color \rangle}` Prints the HTML attributes for a color border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
50 \newcommand*{\LWR@borderpadding}[2]{%
51   border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
52   padding:\LWR@printlength{\fboxsep}%
53 }
```

### § 671.8 High-level macros

`\color` `[\langle model \rangle] {\langle color \rangle}`

The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```
54 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
55   \IfValueTF{#1}{%
56     \LWR@print@color[#1]{#2}%
57     \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
58   }{%
59     \LWR@print@color{#2}%
60     \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
61   }%
62   \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
63 }
```

```
64
65 \LWR@formatted{color}
```

`\textcolor` [*<model>*] {*<color>*} {*<text>*}

Converted into an HTML hex color span.

```
66 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
67   \begingroup%
68   \LWR@hook@processingtags%
69   \IfValueTF{#1}{%
70     \color[#1]{#2}%
71   }{%
72     \color{#2}%
73   }%
74   \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
75   \endgroup%
76 }%
77
78 \LWR@formatted{textcolor}
```

`\pagecolor` [*<model>*] {*<color>*}

Ignored. Use CSS instead.

```
79 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
80 \renewcommand*{\nopagecolor}{}%
```

`\colorbox` [*<model>*] {*<color>*} {*<text>*}

Converted into an HTML hex background color `<span>`.

```
81 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
82   \begingroup%
83   \LWR@hook@processingtags%
84   \InlineClass[%
85     background:\LWR@colorstyle{#1}{#2} ; %
86     padding:\LWR@printlength{\fboxsep}%
87   ]{colorbox}{#3}%
88   \endgroup%
89 }
```

`\colorboxBlock` [*<model>*] {*<color>*} {*<text>*}

Converted into an HTML hex background color `<div>`.

```
90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91   \begingroup%
92   \LWR@hook@processingtags%
93   \LWR@stoppars%
```

```

94   \begin{BlockClass}[%
95     background:\LWR@colorstyle{#1}{#2} ; %
96     padding:\LWR@printlength{\fboxsep}%
97   ]{colorboxBlock}
98   #3
99   \end{BlockClass}%
100  \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

101  \global\booltrue{LWR@minipagethispar}%
102 }

```

`\fcolorbox` [*<framemodel>*] {<framecolor>} [*<boxmodel>*] {<boxcolor>} {<text>}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

103 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
104   \LWR@traceinfo{HTML fcolorbox #2 #4}%
105   \begingroup%
106   \LWR@hook@processingtags%
107   \LWR@forceminwidth{\fboxrule}%
108   \ifthenelse{\equal{#4}{none}}{%
109     {% no background color
110       \InlineClass[%
111         \LWR@borderpadding{#1}{#2}%
112       ]{fcolorbox}{#5}%
113     }%
114     {% yes background color
115       \InlineClass[%
116         \LWR@borderpadding{#1}{#2} ; %
117         background:\LWR@colorstyle{#3}{#4}%
118       ]{fcolorbox}{#5}%
119     }%
120   \endgroup%
121 }

```

`\fcolorboxBlock` [*<framemodel>*] {<framecolor>} [*<boxmodel>*] {<boxcolor>} {<text>} (<add'l html style>)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

122 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m d()}{%
123   \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
124   \begingroup%
125   \LWR@hook@processingtags%
126   \LWR@forceminwidth{\fboxrule}%
127   \LWR@stoppars%

```



```

128 \ifthenelse{\equal{#4}{none}}%
129   {% no background color
130     \begin{BlockClass}[%
131       \LWR@borderpadding{#1}{#2}%
132       \IfValueT{#6}{ ; #6}%
133     ]{fcolorboxBlock}
134     #5
135     \end{BlockClass}%
136   }%
137   {% yes background color
138     \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
139     \begin{BlockClass}[%
140       background:\LWR@origpound\LWR@tempcolortwo\ ; %
141       \LWR@borderpadding{#1}{#2}%
142       \IfValueT{#6}{ ; #6}%
143     ]{fcolorboxBlock}
144     #5
145     \end{BlockClass}%
146   }%
147 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

148 \global\booltrue{LWR@minipagethispar}%
149 \LWR@traceinfo{HTML fcolorboxBlock done}%
150 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 89

```

\LWR@subfcolorminipage {<framemodel>} {<framecolor>} {<background tag>} {<height>}
151 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
152   \LWR@stoppars%
153   \begin{BlockClass}[%
154     #3%
155     \LWR@borderpadding{#1}{#2} ; %
156     \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
157     width:\LWR@printlength{\LWR@tempwidth}%
158   ]{fcolorminipage}%
159 }

```

```

Env fcolorminipage [<1:framemodel>] {<2:framecolor>} [<3:boxmodel>] {<4:boxcolor>} [<5:align>]
 [<6:height>] [<7:inner-align>] {<8:width>}

```

```

160 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
161 {%
162   \LWR@hook@processingtags%
163   \setlength{\LWR@tempwidth}{#8}%
164   \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
165   \LWR@forceminwidth{\fboxrule}%
166   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
167   \ifthenelse{\equal{#4}{none}}%
168     {\LWR@subfcolorminipage{#1}{#2}{#6}}%

```

```

169     {%
170         \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
171         \LWR@subfcolorminipage{#1}{#2}%
172         {background:\LWR@origpound\LWR@tempcolortwo\ ;}%
173         {#6}%
174     }%
175 }%
176 {%
177     \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

178     \global\booltrue{LWR@minipagethispar}%
179 }

```

`\boxframe`  $\langle width \rangle$   $\langle height \rangle$   $\langle depth \rangle$

The depth is added to the height, but the box is not decended below by the depth. `\textcolor` is honored.

```

180 \newcommand*\LWR@HTML@boxframe[3]{%
181     {%
182         \setlength{\LWR@tempwidth}{#1}%
183         \setlength{\LWR@tempheight}{#2}%
184         \addtolength{\LWR@tempheight}{#3}%
185         \LWR@forceminwidth{\fboxrule}%
186         \LWR@findcurrenttextcolor%
187         \InlineClass[%
188             display:inline-block ; %
189             border:%
190                 \LWR@printlength{\LWR@atleastonept} % space
191                 solid % space
192                 \LWR@currenttextcolor{} ; % space
193                 width:\LWR@printlength{\LWR@tempwidth} ; %
194                 height:\LWR@printlength{\LWR@tempheight}%
195             ]{boxframe}{}%
196     }%
197 }
198
199 \LWR@formatted{boxframe}

```

## § 671.9 Row colors

`\rowcol@rs`

$\langle cmds \rangle$   $\langle startrow \rangle$   $\langle odd color \rangle$   $\langle even color \rangle$

```

200 \newcommand*\LWR@xcolortempcolor{}
201
202 \def\rowcol@rs[#1]#2#3#4%
203 {%
204     \rownum=1%
205     \@rowcolorstrue%
206     \@ifxempty{#3}%
207         {\def\@oddrowcolor{\@norowcolor}}%
208         {%
209             \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
210             \edef\@oddrowcolor{%
211                 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%

```

```

212     }%
213   }%
214   \@ifxempty{#4}%
215     {\def\@evenrowcolor{\@norowcolor}}%
216     {%
217       \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
218       \edef\@evenrowcolor{%
219         \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
220       }%
221     }%
222   \if@rowcmd
223     \def\@rowcolors
224     {%
225 %       #1%
226       \if@rowcolors
227 %         \noalign{%
228           \relax\ifnum\rownum<#2\@norowcolor\else
229             \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
230 %         }%
231         \fi%
232       }%
233     \else
234       \def\@rowcolors
235       {%
236         \if@rowcolors
237           \ifnum\rownum<#2%
238 %             \noalign{%
239               \@norowcolor
240 %             }
241           \else
242 %             #1%
243 %             \noalign{%
244               \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
245 %             }%
246           \fi
247         \fi%
248       }%
249     \fi
250   \ignorespaces%
251 }

```

`\@norowcolor`

Turns off color for this row.

```

252 \def\@norowcolor{%
253   \renewcommand{LWR@xcolorrowHTMLcolor}{}%
254 }

```

`\@rowc@lors`

Executed at the end of each row.

```

255 \def\@rowc@lors{%
256 %   \noalign{%
257     \advance\rownum\@ne%
258 %   }%
259   \@rowcolors%
260 }

```

---

File 563 **lwarp-xexchangebar.sty**

§ 672 Package **xexchangebar**

Pkg xexchangebar

xexchangebar is ignored

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{lwarp-changebar}
```

---

File 564 **lwarp-xellipsis.sty**

§ 673 Package **xellipsis**

Pkg xellipsis

*(Emulates or patches code by DONALD P. GOODMAN III.)*

xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]
2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4   \ifdim#1<\fontdimen2\font%
5     \,%
6   \else%
7     ~%
8   \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14   \LWR@xellipsespace{\xelipprebef}%
15   \xelipprechar%
16   \LWR@xellipsespace{\xelippreaft}%
17   \LWR@xellipsespace{\xelipbef}%
18   \xelipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsespace{\xelipgap}%
23     \xelipchar%
24   \repeat%
25   \LWR@xellipsespace{\xelipaft}%
26   \LWR@xellipsespace{\xelippostbef}%
27   \xelippostchar%
28   \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%
```

---

File 565 **lwarp-xetexko.sty**

§ 674 Package **xetexko**

*(Emulates or patches code by DOHYUN KIM.)*

Pkg xetexko

xetexko is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@Loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]

4 \protected\def\typesetvertical{}
5 \protected\def\typesethorizontal{}
6
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontalrb}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

---

File 566 **lwarp-xevlna.sty**

§ 675 Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg xevlna

xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%

```

---


File 567 **lwarp-xfakebold.sty**

§ 676 Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg xfakebold

xfakebold is patched for use by lwarp, and additional underlying support is found in the lwarp core.

 **text mode** `xfakebold` is only used in `svg math` and `lateximages`. Text mode is not set bold, but `\setBold` in text will be applied to any following `svg math`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]
2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9   \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For `MATHJAX`, `xfakebold` is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}
```

---

File 568 **lwarp-xfrac.sty**

§ 677 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)


Pkg xfrac

Supported by adding `xfrac` instances, and emulated for `MATHJAX`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]
```

 **font size** In the user's document preamble, `lwarp` should be loaded after font-related setup. During `HTML` conversion, this font is used by `lwarp` to generate its initial `PDF` output containing `HTML` tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into `SVG` images using this same user-selected font. `xfrac` below is set for the Latin Modern (`lmr`) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different `em` size.

\sfrac

```
[\langle instance \rangle] {\langle num \rangle} [\langle sep \rangle] {\langle denom \rangle}
```

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in `HTML` tags. `\scalebox` is made null inside the numerator and denominator, since the `HTML` tags should not be scaled, and we do not want to introduce additional `HTML` tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```

2 \newcommand*\xfracHTMLfontsize{.6em}
```

**instances** Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```

3 \DeclareInstance{xfrac}{default}{text}{
4   numerator-format = {%
5     \begingroup%
6     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7     \InlineClass{numerator}{#1}\,%
8     \endgroup%
9   },
10  denominator-format = {%
11    \begingroup%
12    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13    \InlineClass{denominator}{#1}%
14    \endgroup%
15  },

```

For *pdftotext*, do not scale the text:

```

16   scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20   numerator-format = {%
21     \begingroup%
22     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23     \InlineClass{numerator}{#1}\,%
24     \endgroup%
25   },
26   denominator-format = {%
27     \begingroup%
28     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29     \InlineClass{denominator}{#1}%
30     \endgroup%
31   },

```

For *pdftotext*, do not scale the text:

```

32   scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36   numerator-format = {%
37     \begingroup%
38     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39     \InlineClass{numerator}{#1}\,%
40     \endgroup%
41   },
42   denominator-format = {%
43     \begingroup%
44     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45     \InlineClass{denominator}{#1}%
46     \endgroup%
47   },

```

For *pdftotext*, do not scale the text:

```

48   scaling = false

```

```

49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52   numerator-format = {%
53     \begingroup%
54     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55     \InlineClass{numerator}{#1}\,%
56     \endgroup%
57   },
58   denominator-format = {%
59     \begingroup%
60     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61     \InlineClass{denominator}{#1}%
62     \endgroup%
63   },

```

For *pdftotext*, do not scale the text:

```

64   scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/{\}]{^{\LWRsfracnumerator\!#1}_{#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\def\LWRsfracnumerator{#2}\LWRsfrac]}
69 \end{warpMathJax}

```

---

File 569 **lwarp-xltabular.sty**

§ 678 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular

xltabular is emulated by lwarp.

**for HTML output:**

Relies on tabularx.

 **table numbering**

At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```



---

File 570 **lwarp-xltxtra.sty**

§ 679 Package **xltxtra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltxtra

xltxtra is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xltxtra}[2016/01/21]
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@Logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 \textsuperscript{#1}/\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][{#1}]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

File 571 **lwarp-xmpincl.sty**

§ 680 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl

xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includexp[1]{}

```

---

File 572 **lwarp-xpiano.sty**

§ 681 Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg xpiano

xpiano is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5   \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11   [%
12     -xpiano-~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13   ]
14   [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

File 573 **lwarp-xpinyin.sty**§ 682 Package **xpinyin***(Emulates or patches code by SOBEN LEE.)*

Pkg xpinyin

xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

The original's boxes are not used, instead the contents are used with `<ruby>`, `<rt>`, and `<rp>` tags per modern HTML. Color is detected. `ratio` is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5   \color_group_begin: \color_ensure_current:
6   \l__xpinyin_pinyin_box_hook_tl
7   \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8   \__xpinyin_select_font:
9   \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10    { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11    { \l__xpinyin_format_tl }
12   \ifdefempty{\l__xpinyin_format_tl}
13     {#3}
14     {\LWR@textcurrentcolor{#3}}
15   \color_group_end:

```

```

16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20   \__xpinyin_leavevmode:
21   \LWR@htmltagc{ruby}
22   \__xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
24   \LWR@htmltagc{rt}
25   \__xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26   \LWR@htmltagc{/rt\space}
27   \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
28   \LWR@htmltagc{/ruby\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33   \__xpinyin_leavevmode:
34   \LWR@htmltagc{ruby}
35   \__xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
36   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
37   \LWR@htmltagc{rt}
38   \__xpinyin_make_pinyin_box:xnn
39   { \__xpinyin_to_unicode:n {#1} } {#1} { \__xpinyin_pinyin:n {#2} }
40   \LWR@htmltagc{/rt\space}
41   \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
42   \LWR@htmltagc{/ruby\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The `lwarp` core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

---

File 574 **lwarp-xr.sty**

§ 683 Package **xr**

*(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)*

`xr` is patched for use by `lwarp`. The `*_html.aux` file is used. `\externaldocument` is modified to also accept the optional arguments for `xr-hyper`, which currently uses `xr` for HTML output.

See section 5.17.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%

```

2 \LetLtxMacro\LWR@orig@externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{}}{%
5   \ifblank{#1}{%
6     \LWR@orig@externaldocument{#3_html}%
7   }{%
8     \LWR@orig@externaldocument[#1]{#3_html}%
9   }%
10 }

```

---

File 575 **lwarp-xr-hyper.sty**

§ 684 Package **xr-hyper**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg xr-hyper

xr-hyper is replaced by xr, which is modified to accept the optional arguments for \externaldocument. So far, no hyperlinks are provided for citations.

See section 5.17.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}

```

---

File 576 **lwarp-xtab.sty**

§ 685 Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

Pkg xtab


xtab is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

```


 **Misplaced alignment tab character &** For \tablefirsthead, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars

```

See section 8.10.1.

 **lateximage** supertabular and xtab are not supported inside a lateximage.

```

2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}

```

```
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19     \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][1]{%
22     \long\gdef\LWRXT@caption{%
23         \ifblank{#1}%
24             {\caption{#2}}%
25             {\caption[#1]{#2}}%
26     }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*{\LWRXT@caption}{}
32
33 \newcommand*{\shrinkheight}[1]{}
34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 }%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}
```

File 577 **lwarp-xunicode.sty**

§ 686 Package **xunicode**

Pkg xunicode

Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```
1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]
```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```
4 \providecommand*\LWR@HTML@textcircled[1]{%
5   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}
```

Nullify xunicode macros when generating filenames:

```
9 \FilenameNullify{%
10   \renewcommand*\textdegree{}%
11   \renewcommand*\textcelsius{}%
12   \renewcommand*\textohm{}%
13   \renewcommand*\textmu{}%
14   \renewcommand*\textlquill{}%
15   \renewcommand*\textrquill{}%
16   \renewcommand*\textcircledP{}%
17   \renewcommand*\texttwelveudash{}%
18   \renewcommand*\textthreequartersemdash{}%
19   \renewcommand*\textmho{}%
20   \renewcommand*\textnaira{}%
21   \renewcommand*\textpeso{}%
22   \renewcommand*\textrecipe{}%
23   \renewcommand*\textinterrobang{}%
24   \renewcommand*\textinterrobangdown{}%
25   \renewcommand*\textperthousand{}%
26   \renewcommand*\textpertenthousand{}%
27   \renewcommand*\textbaht{}%
28   \renewcommand*\textdiscount{}%
29   \renewcommand*\textservicemark{}%
30   \renewcommand*\textcircled[1]{#1}%
31   \renewcommand*\capitalcedilla[1]{#1}%
32   \renewcommand*\capitalogonek[1]{#1}%
33   \renewcommand*\capitalgrave[1]{#1}%
34   \renewcommand*\capitalacute[1]{#1}%
35   \renewcommand*\capitalcircumflex[1]{#1}%
36   \renewcommand*\capitaltilde[1]{#1}%
37   \renewcommand*\capitaldieresis[1]{#1}%
38   \renewcommand*\capitalhungarumlaut[1]{#1}%
39   \renewcommand*\capitalring[1]{#1}%
40   \renewcommand*\capitalcaron[1]{#1}%
```

---

```

41 \renewcommand*\capitalbreve}[1]{#1}%
42 \renewcommand*\capitalmacron}[1]{#1}%
43 \renewcommand*\capitaldotaccent}[1]{#1}%
44 }% FilenameNullify

```

---

File 578 **lwarp-xurl.sty**

§ 687 Package **xurl**

Pkg xurl xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

File 579 **lwarp-xy.sty**

§ 688 Package **xy**

*(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)*

Pkg xy xy is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

```

After xy modules have been loaded:

```

2 \AtBeginDocument{

```

The original definitions without a lateximage:

```

3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy

```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```

5 \renewcommand*\xy}{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {\addtocounter{LWR@lateximagedepth}{1}}%
8     {\begin{lateximage}[-xy~\PackageDiagramAltText]}%
9     \LWR@orig@xy%
10 }
11
12 \renewcommand*\endxy}{%
13   \LWR@orig@endxy%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15     {\addtocounter{LWR@lateximagedepth}{-1}}%
16     {\end{lateximage}}%
17 }

```

The `\xybox` must use the original definitions of `\xy`, `\endxy`:

```

18 \def\xybox#1{%
19   \LWR@orig@xy#1\LWR@orig@endxy%
20   \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }

```

If `\xygraph` is used, it is placed inside a `lateximage`:

```

22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27   \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28   \LWR@origxygraph{#1}
29   \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument

```

---

File 580 **lwarp-zhlineskip.sty**

§ 689 Package **zhlineskip**

Pkg zhlineskip

zhlineskip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 581 **lwarp-zwpageLayout.sty**

§ 690 Package **zwpageLayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg zwpageLayout

zwpageLayout is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zwpageLayout}[2013/01/13]

```

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6   \definecolor{cmykblack}{cmyk}{0,0,0,1}
7   \definecolor{grblack}{gray}{0}
8 %   \ifzwpL@redefineblack
9 %     \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 %   \fi
11   \definecolor{cmykred}{cmyk}{0,1,1,0}

```



```

12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbbblue}{rgb}{0,0,1}
17% \ifzwpl@redefinetcmyk
18% \definecolor{red}{cmyk}{0,1,1,0}
19% \definecolor{green}{cmyk}{1,0,1,0}
20% \definecolor{blue}{cmyk}{1,1,0,0}
21% \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 582 **lwarp-patch-komascript.sty**

§ 691 Package **patch-komascript**

Pkg lwarp-patch-komascript Patches for komascript classes.

lwarp loads this package when scrbook, scartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

 **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 `\ProvidesPackage{lwarp-patch-komascript}`

`typearea` is emulated.

2 `\RequirePackage{lwarp-typearea}`

`tocbasic` is emulated.

3 `\RequirePackage{lwarp-tocbasic}`

`scrextend` patches most of the new macros.

4 `\RequirePackage{lwarp-scrextend}`

Indexing macros, simplified for `lwarp`:

```

5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8   \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12   \idx@heading%
13   \index@preamble\par\nobreak
14   \LetLtxMacro\item\LWR@indexitem%
15   \LetLtxMacro\subitem\LWR@indexsubitem%
16   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

23 \renewcommand*{\minisec}[1]{
24   \begin{BlockClass}{minisec}
25     #1
26   \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \@ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30   \renewcommand{\part@preamble}{#3}%

```

```

31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36   \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```
39 \renewcommand*{\LWR@printchaptername}{}{}
```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42   \LetLtxMacro\captionbelow\caption
43   \LetLtxMacro\captionabove\caption
44
45   \LetLtxMacro\captionofbelow\captionof
46   \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53   \IfValueTF{#1}%
54     {\caption[#1]{#2}}%
55     {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61   \IfValueTF{#2}%
62     {\captionof{#1}[#2]{#3}}%
63     {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*{\setcaphanging}{}
68 \renewcommand*{\setcapwidth}[2][{}]{}
69 \renewcommand*{\setcapdynwidth}[2][{}]{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 583 **lwarp-patch-memoir.sty**

§ 692 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg lwarp-patch-memoir Patches for memoir class.

 **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

- ⚠ **captions** lwarp uses `caption`, which causes a warning from memoir. This is normal. Adjust captions via `caption`, instead of memoir.

While emulating memoir, lwarp pre-loads a number of packages (section 692.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

- ⚠ **options clash**

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

- ⚠ **version numbers**

memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

- ⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

- ⚠ **verbatim footnotes** `\verbfootnote` is not supported.

- ⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

- ⚠ **page notes** lwarp loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

- ⚠ **poems** Poem numbering is not supported.

- ⚠ **verbatim** The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

- ⚠ **glossaries** The memoir glossary system is not yet supported by `lwarpmk`. The `glossaries` pack-

age may be used instead, but does require the glossary entries be changed from the memoir syntax to the glossaries syntax.

for HTML output: 1 \ProvidesPackage{lwarp-patch-memoir}

## § 692.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that abstract, etc. are already loaded, via its "emulated" package mechanism, but lwarp is directly loading the "lwarp-" version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 692.2 Label handling

Insert the `lwarp` label mechanism into the memoir package mechanism:

- `\@mem@old@label` is the L<sup>A</sup>T<sub>E</sub>X definition of `\label`.
- `\LWR@orig@label` becomes the memoir definition.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want memoir's `\label` to use `lwarp`'s `\label`, which then would use L<sup>A</sup>T<sub>E</sub>X's `\label`.
- So:
  - `\@mem@old@label` is set to `\LWR@new@label`.
  - `\LWR@orig@label` is set to `\@mem@old@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by `lwarp`.

```
36 \LetLtxMacro\LWR@orig@label\@mem@old@label
37 \LetLtxMacro\@mem@old@label\LWR@new@label
```

Patches for subfloats to support additional `lwarp` labels. This is the non-hyperref version from memoir.

```
38 \AtBeginDocument{
39   \renewcommand*\sf@memsub@label[1]{%
40     \@bsphack
41     \sf@memsub@label@hook{#1}%
42 %     \@memoldlabel{#1}%
43     \cref@label{#1}%                lwarp
44     \LWR@label@createtag{sub@#1}%   lwarp
45     \protected@write\@auxout{}{%
46       \string\newlabel{sub@#1}%
47       {{\@nameuse{@@thesub\@capttype}}%
48       {\thepage}}}%
49     \LWR@write@lwarplabel{sub@#1}%   lwarp
50     \@esphack
51   }
52 }
```

## § 692.3 Page layout

memoir already set the page size to a default, so it must be forced large for `lwarp`'s use, to avoid tag overflows off the page.

```
53 \setstocksize{190in}{20in}
54 \setlrmarginsandblock{2in}{2in}{*}
55 \setulmarginsandblock{1in}{1in}{*}

56 \renewcommand*\stockavi{}
57 \renewcommand*\stockav{}
58 \renewcommand*\stockaiv{}
59 \renewcommand*\stockaiii{}
```

```
60 \renewcommand*\stockavii{}
61 \renewcommand*\stockbvi{}
62 \renewcommand*\stockbv{}
63 \renewcommand*\stockbiv{}
64 \renewcommand*\stockbiii{}
65 \renewcommand*\stockbvii{}
66 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
67 \renewcommand*\stockmlargecrownvo{}
68 \renewcommand*\stockmdemyvo{}
69 \renewcommand*\stocksmallroyalvo{}
70 \renewcommand*\pageavi{}
71 \renewcommand*\pageavii{}
72 \renewcommand*\pageav{}
73 \renewcommand*\pageaiv{}
74 \renewcommand*\pageaiii{}
75 \renewcommand*\pagebvi{}
76 \renewcommand*\pagebvii{}
77 \renewcommand*\pagebv{}
78 \renewcommand*\pagebiv{}
79 \renewcommand*\pagebiii{}
80 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
81 \renewcommand*\pagemlargecrownvo{}
82 \renewcommand*\pagemdemyvo{}
83 \renewcommand*\pagemsmallroyalvo{}
84
85 \renewcommand*\stockdbill{}
86 \renewcommand*\stockstatement{}
87 \renewcommand*\stockexecutive{}
88 \renewcommand*\stockletter{}
89 \renewcommand*\stockold{}
90 \renewcommand*\stocklegal{}
91 \renewcommand*\stockledger{}
92 \renewcommand*\stockbroadsheet{}
93 \renewcommand*\pagedbill{}
94 \renewcommand*\pagestatement{}
95 \renewcommand*\pageexecutive{}
96 \renewcommand*\pageletter{}
97 \renewcommand*\pageold{}
98 \renewcommand*\pagelegal{}
99 \renewcommand*\pageledger{}
100 \renewcommand*\pagebroadsheet{}
101
102 \renewcommand*\stockpottvo{}
103 \renewcommand*\stockfoolscapvo{}
104 \renewcommand*\stockcrownvo{}
105 \renewcommand*\stockpostvo{}
106 \renewcommand*\stocklargecrownvo{}
107 \renewcommand*\stocklargepostvo{}
108 \renewcommand*\stocksmalldemyvo{}
109 \renewcommand*\stockdemyvo{}
110 \renewcommand*\stockmediumvo{}
111 \renewcommand*\stocksmallroyalvo{}
112 \renewcommand*\stockroyalvo{}
113 \renewcommand*\stocksuperroyalvo{}
114 \renewcommand*\stockimperialvo{}
115 \renewcommand*\pagepottvo{}
116 \renewcommand*\pagefoolscapvo{}
117 \renewcommand*\pagecrownvo{}
118 \renewcommand*\pagepostvo{}
119 \renewcommand*\pagelargecrownvo{}

```

```
120 \renewcommand*{\pagelargepostvo}{}
121 \renewcommand*{\pagesmalldemyvo}{}
122 \renewcommand*{\pagedemyvo}{}
123 \renewcommand*{\pagemediumvo}{}
124 \renewcommand*{\pagesmallroyalvo}{}
125 \renewcommand*{\pageroyalvo}{}
126 \renewcommand*{\pagesuperroyalvo}{}
127 \renewcommand*{\pageimperialvo}{}
128
129 \renewcommand*{\memfontfamily}{}
130 \renewcommand*{\memfontenc}{}
131 \renewcommand*{\memfontpack}{}
132
133 \renewcommand*{\anyptfilebase}{}
134 \renewcommand*{\anyptsizesize}{10}
135
136 \renewcommand*{\setstocksize}[2]{}
137 \renewcommand*{\settrimmedsize}[3]{}
138 \renewcommand*{\settrims}[2]{}
139
140 % \newlength{\lxvchars}
141 % \setlength{\lxvchars}{305pt}
142 % \newlength{\xlvcchars}
143 % \setlength{\xlvcchars}{190pt}
144 \renewcommand*{\setxlvcchars}[1]{}
145 \renewcommand*{\setlxvchars}[1]{}
146
147 \renewcommand*{\settypeblocksize}[3]{}
148 \renewcommand*{\setlrmargins}[3]{}
149 \renewcommand*{\setlrmarginsandblock}[3]{}
150 \renewcommand*{\setbinding}[1]{}
151 \renewcommand*{\setulmargins}[3]{}
152 \renewcommand*{\setulmarginsandblock}[3]{}
153 \renewcommand*{\setcolsepandrul}[2]{}
154
155 \renewcommand*{\setheadfoot}[2]{}
156 \renewcommand*{\setheaderspaces}[3]{}
157 \renewcommand*{\setmarginnotes}[3]{}
158 \renewcommand*{\setfootins}[2]{}
159 \renewcommand*{\checkandfixthelayout}[1][1]{}
160 \renewcommand*{\checkthelayout}[1]{}
161 \renewcommand*{\fixthelayout}{}
162 %
163 % \newlength{\stockheight}
164 % \newlength{\trimtop}
165 % \newlength{\trimedge}
166 % \newlength{\stockwidth}
167 % \newlength{\spinmargin}
168 % \newlength{\foremargin}
169 % \newlength{\uppermargin}
170 % \newlength{\headmargin}
171 %
172 \renewcommand*{\typeoutlayout}{}
173 \renewcommand*{\typeoutstandardlayout}{}
174 \renewcommand*{\settypeoutlayoutunit}[1]{}
175 \renewcommand*{\fixpdflayout}{}
176 \renewcommand*{\fixdvipslayout}{}
177
178 \renewcommand*{\medievalpage}[1][1]{}
179 \renewcommand*{\isopage}[1][1]{}

```



```

180 \renewcommand*\semiisopage}[1]{}
181
182 \renewcommand{\setpagebl}[3]{}
183 \renewcommand{\setpageml}[3]{}
184 \renewcommand{\setpagetl}[3]{}
185 \renewcommand{\setpagetm}[3]{}
186 \renewcommand{\setpagetr}[3]{}
187 \renewcommand{\setpagemr}[3]{}
188 \renewcommand{\setpagebr}[3]{}
189 \renewcommand{\setpagebm}[3]{}
190 \renewcommand{\setpagecc}[3]{}

```

#### § 692.4 Text and fonts

```

191 \let\miniscule\tiny
192 \let\HUGE\Huge
193
194 \renewcommand*\abnormalparskip}[1]{}
195 \renewcommand*\nonzeroparskip{}
196 \renewcommand*\traditionalparskip{}
197
198 \let\onelineskip\baselineskip
199
200 \let\OnehalfSpacing\onehalfspacing
201 \let\DoubleSpacing\doublespacing
202 \renewcommand*\setPagenoteSpacing}[1]{}
203 \renewcommand*\setFloatSpacing}[1]{}

204 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

205 \let\setSingleSpace\SetSinglespace
206 \let\SingleSpace\singlespace
207 \let\endSingleSpace\endsinglespace
208 \let\Spacing\spacing
209 \let\endSpacing\endspacing
210 \let\OnehalfSpace\onehalfspace
211 \let\endOnehalfSpace\endonehalfspace
212 \csletcs{OnehalfSpace*}{onehalfspace}
213 \csletcs{endOnehalfSpace*}{endonehalfspace}
214 \let\DoubleSpace\doublespace
215 \let\endDoubleSpace\enddoublespace
216 \csletcs{DoubleSpace*}{doublespace}
217 \csletcs{endDoubleSpace*}{enddoublespace}
218 \renewcommand*\setDisplayskipStretch}[1]{}
219 \renewcommand*\memdskipstretch{}
220 \renewcommand*\noDisplayskipStretch{}
221 \renewcommand*\memdskips{}
222
223 \renewcommand*\midslippy{}
224 \renewenvironment*{midslippy}{\par}{\par}
225
226 \renewcommand*\slippybottom{}

```

#### § 692.5 Titles

```

227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand{\titlingpageend}[2]{}
231 \let\andnext\and

```

```

232 \renewcommand*{\thanksmarkstyle}[1]{}
233
234 \renewcommand{\thanksfootmark}{%
235   \thanksscript{\tamark}%
236 }
237
238 % \newlength{\thanksmarksep}% already provided by memoir

239 \renewcommand\titlingpageend[2]{}

```

## § 692.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*{\abstractcol}{}
243 \renewcommand*{\abstractintoc}{}
244 \renewcommand*{\abstractnum}{}
245 \renewcommand*{\abstractrunin}{}

```

## § 692.7 Document divisions

\book

```
* (<{2:PDF name}>) [<{3:TOC name}>] [<{4:PDF name}>] (<{5:PDF name}>) {<{6:name}>}
```

```

246 \DeclareDocumentCommand{\book}{s d() o d() m}{%
247   \LWR@section{#1}{#3}{#6}{book}%
248 }

249 \def\@apppage{%
250   \part*{\appendixpagename}
251 }
252 \renewcommand\mempreaddapppagetotochook{}
253 \renewcommand\mempostaddapppagetotochook{}
254
255 \def\@sapppage{%
256   \part*{\appendixpagename}
257 }

258 \DeclareDocumentCommand{\mainmatter}{s}{%
259   \booltrue{LWR@mainmatter}%
260 }
261
262 \DeclareDocumentCommand{\frontmatter}{s}{%
263   \boolfalse{LWR@mainmatter}%
264 }

265 \renewcommand*{\raggedbottomsection}{}
266 \renewcommand*{\normalbottomsection}{}
267 \renewcommand*{\bottomsectionskip}{}
268 \renewcommand*{\bottomsectionpenalty}{}
269 \csletcs{appendixpage*}{appendixpage}
270 \renewcommand*{\namedsubappendices}{}
271 \renewcommand*{\unnamedsubappendices}{}
272 \renewcommand*{\beforebookskip}{}
273 \renewcommand*{\afterbookskip}{}
274 \renewcommand*{\beforepartskip}{}
275 \renewcommand*{\afterpartskip}{}
276 \renewcommand*{\midbookskip}{}

```

```
277 \renewcommand*\midpartskip{}
278 \renewcommand*\printbookname{}
279 \renewcommand*\booknamefont{}
280 \renewcommand*\booknamenum{}
281 \renewcommand*\printbooknum{}
282 \renewcommand*\booknumfont{}
283 \renewcommand*\printpartname{}
284 \renewcommand*\partnamefont{}
285 \renewcommand*\partnamenum{}
286 \renewcommand*\printpartnum{}
287 \renewcommand*\partnumfont{}
288 \renewcommand*\printbooktitle}[1]{}
289 \renewcommand*\booktitlefont{}
290 \renewcommand*\printparttitle}[1]{}
291 \renewcommand*\parttitlefont{}
292 \renewcommand*\bookpageend{}
293 \renewcommand*\bookblankpage{}
294 \renewcommand*\nobookblankpage{}
295 \renewcommand*\partpageend{}
296 \renewcommand*\partblankpage{}
297 \renewcommand*\nopartblankpage{}
298 \RenewDocumentCommand\newleadpage{s o m m}{}% todo
299 \RenewDocumentCommand\renewleadpage{s o m m}{}% todo
300 \renewcommand*\leadpagetoclevel}{chapter}
301
302 \renewcommand*\openright{}
303 \renewcommand*\openleft{}
304 \renewcommand*\openany{}
305 \renewcommand*\clearforchapter{}
306 \renewcommand*\memendofchapterhook{}
307 \renewcommand*\chapterheadstart{}
308 % \newlength\beforechapskip
309 \renewcommand*\afterchapterskip{}
310 % \newlength\midchapskip
311 \renewcommand*\afterchapterskip{}
312 % \newlength\afterchapskip
313 \renewcommand*\printchaptername{}
314 \renewcommand*\chapnamefont{}
315 \renewcommand*\chapternamenum{}
316 \renewcommand*\printchapternum{}
317 \renewcommand*\chapnumfont{}
318 \renewcommand*\printchapterskip}[1]{}
319 \renewcommand*\chapterskipfont{}
320 \renewcommand*\printchapterskipnonum{}
321 \renewcommand*\indentafterchapter{}
322 \renewcommand*\noindentafterchapter{}
323 \renewcommand*\insertchapterspace{}
324
325 \renewcommand*\chapterstyle}[1]{}
326 \renewcommand*\makechapterstyle}[2]{}
327 \renewcommand*\chapindent{}
328 \let\chapterprecis\cftchapterprecis
329 \let\chapterprecishere\cftchapterprecishere
330 \let\chapterprecistoc\cftchapterprecistoc
331 \renewcommand*\precisfont{}
332 \renewcommand*\prechapterprecis{}
333 \renewcommand*\postchapterprecis{}
334 \renewcommand*\precistocfont}[1]{}
335 \renewcommand*\precistocfont{}
336 \renewcommand*\precistocformat{}

```

```
337% \newlength{\prechapterprecisshift}
338
339 \renewcommand*\setbeforesecskip}[1]{
340 \renewcommand*\setaftersecskip}[1]{
341 \renewcommand*\setsecindent}[1]{
342 \renewcommand*\setsecheadstyle}[1]{
343 \renewcommand*\setbeforesubsecskip}[1]{
344 \renewcommand*\setaftersubsecskip}[1]{
345 \renewcommand*\setsubsecindent}[1]{
346 \renewcommand*\setsubsecheadstyle}[1]{
347 \renewcommand*\setbeforesubsubsecskip}[1]{
348 \renewcommand*\setaftersubsubsecskip}[1]{
349 \renewcommand*\setsubsubsecindent}[1]{
350 \renewcommand*\setsubsubsecheadstyle}[1]{
351 \renewcommand*\setbeforeparaskip}[1]{
352 \renewcommand*\setafterparaskip}[1]{
353 \renewcommand*\setparaindent}[1]{
354 \renewcommand*\setparaheadstyle}[1]{
355 \renewcommand*\setbeforesubparaskip}[1]{
356 \renewcommand*\setaftersubparaskip}[1]{
357 \renewcommand*\setsubparaindent}[1]{
358 \renewcommand*\setsubparaheadstyle}[1]{
359 \renewcommand{\@hangfrom}[1]{#1}
360 \renewcommand{\sethangfrom}[1]{
361 \renewcommand{\setsecnumformat}[1]{
362
363 \renewcommand*\hangsecnum{}
364 \renewcommand*\defaultsecnum{}
365
366 \renewcommand*\sechook{}
367 \renewcommand{\setsechook}[1]{
368 \renewcommand*\subsechook{}
369 \renewcommand{\setsubsechook}[1]{
370 \renewcommand*\subsubsechook{}
371 \renewcommand{\setsubsubsechook}[1]{
372 \renewcommand*\parahook{}
373 \renewcommand{\setparahook}[1]{
374 \renewcommand*\subparahook{}
375 \renewcommand{\setsubparahook}[1]{
376
377 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
378
379 \RenewDocumentCommand{\fancybreak}{s +m}{%
380   \begin{center}#2\end{center}%
381 }
382
383 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
384   \begin{center}#4\end{center}%
385 }
386
387 \RenewDocumentCommand{\pfbreak}{s}{%
388   \begin{center}
389     \pfbreakdisplay
390   \end{center}
391 }
392
393% \newlength{\pfbreakskip}
394 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
395
396 \renewcommand{\makeheadstyles}[2]{
```

397 \renewcommand\*{\headstyles}[1]{}

## § 692.8 **Pagination and headers**

398 \renewcommand\*{\savepagenumber}{}  
 399 \renewcommand\*{\restorepagenumber}{}  
 400 \renewcommand\*{\uppercaseheads}{}  
 401 \renewcommand\*{\nouppercaseheads}{}  
 402  
 403 \renewcommand\*{\bookpagemark}[1]{}  
 404 \renewcommand\*{\partmark}[1]{}  
 405 \renewcommand\*{\bibmark}{}  
 406 \renewcommand\*{\indexmark}{}  
 407 \renewcommand\*{\glossarymark}{}  
 408  
 409 \LWR@origpagestyle{empty}  
 410 \renewcommand\*{\ps@empty}{}  
 411 \renewcommand\*{\makepagestyle}[1]{}  
 412 \renewcommand\*{\emptyshook}{}%  
 413 % \renewcommand\*{\empty@oddhead}{}  
 414 % \renewcommand\*{\empty@oddfoot}{}  
 415 % \renewcommand\*{\empty@evenhead}{}  
 416 % \renewcommand\*{\empty@evenfoot}{}  
 417 \renewcommand\*{\@oddhead}{}  
 418 \renewcommand\*{\@oddfoot}{}  
 419 \renewcommand\*{\@evenhead}{}  
 420 \renewcommand\*{\@evenfoot}{}  
 421 \renewcommand\*{\aliaspagestyle}[2]{}  
 422 \renewcommand\*{\copypagestyle}[2]{}  
 423  
 424 \renewcommand\*{\makeevenhead}[4]{}  
 425 \renewcommand\*{\makeoddhead}[4]{}  
 426 \renewcommand\*{\makeevenfoot}[4]{}  
 427 \renewcommand\*{\makeoddfoot}[4]{}  
 428 \renewcommand\*{\makerunningwidth}[3]{}  
 429 % \newlength{\headwidth}  
 430 \renewcommand\*{\makeheadrule}[3]{}  
 431 \renewcommand\*{\makefootrule}[3]{}  
 432 \renewcommand\*{\makeheadfootruleprefix}[3]{}  
 433 % \newlength{\normalrulethickness}  
 434 % \setlength{\normalrulethickness}{.4pt}  
 435 % \newlength{\footruleheight}  
 436 % \newlength{\footruleskip}  
 437 \renewcommand\*{\makeheadposition}[5]{}  
 438 \renewcommand\*{\makepsmarks}[2]{}  
 439 \renewcommand\*{\makeheadfootstrut}[3]{}

440 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{}}  
 441 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}}

442 \renewcommand{\memUChad}[1]{}  
 443 \renewcommand\*{\clearplainmark}[1]{}  
 444 \renewcommand\*{\clearmark}[1]{}  
 445 \renewcommand{\addtopsmarks}[3]{}  
 446 \renewcommand{\ifonlyfloats}[2]{#2}  
 447 \renewcommand\*{\mergepagefloatstyle}[3]{}  
 448  
 449 \renewcommand\*{\framepichead}{}  
 450 \renewcommand\*{\framepictextfoot}{}  
 451 \renewcommand\*{\framepichook}{}  
 452

```
452 \renewcommand*\showheadfootlocoff{}
453 \renewcommand*\showtextblocklocoff{}
```

### § 692.9 Paragraphs and lists

```
454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*\raggedyright}[1]{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourcetrigh}[2][\attribution{#2}]
459 \let\memorigdbs\LWR@endofline

460 \renewcommand*\memorigpar{\par}

461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*\linenottooshort}[1]{}
464 \renewcommand*\russianpar{}
465 \renewcommand*\lastlinerulefill{}
466 \renewcommand*\lastlineparrule{}
467 \renewcommand*\justlastraggedleft{}
468 \renewcommand*\raggedrightthenleft{}
469 \renewcommand*\leftcenterright{}
470
471 \renewcommand{\leftspringright}[4]{%
472   \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
473   \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \renewenvironment*{blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
481 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
482 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*\tightlists{}
484 \renewcommand*\defaultlists{}
485 \RenewDocumentCommand{\firmlists}{s}{}
486 \renewcommand*\firmelist{}
487 \renewcommand*\tightlist{}
488 \renewcommand*\zerotrivseps{}
489 \renewcommand*\savetrivseps{}
490 \renewcommand*\restoretrivseps{}
```

### § 692.10 Contents lists

```
491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc{}
496 \renewcommand*\twocoltocetc{}
497 \renewcommand*\ensureonecol{}
498 \renewcommand*\restorefromonecol{}
499 \renewcommand*\doccoltocetc{}
500
501 \renewcommand{\toheadstart}{}
502 \renewcommand{\printtoctitle}[1]{}
503 \renewcommand{\tocmark}{}

```

```

504 \renewcommand{\aftertoctitle}{}
505 \renewcommand{\lofheadstart}{}
506 \renewcommand{\printloftitle}[1]{}
507 \renewcommand{\lofmark}{}
508 \renewcommand{\afterloftitle}{}
509 \renewcommand{\lotheadstart}{}
510 \renewcommand{\printlottitle}[1]{}
511 \renewcommand{\lotmark}{}
512 \renewcommand{\afterlottitle}{}
513
514 \renewcommand*\setpnumwidth[1]{}
515 \renewcommand*\setrmarg[1]{}
516 \renewcommand*\cftbookbreak{}
517 \renewcommand*\cftpartbreak{}
518 \renewcommand*\cftchapterbreak{}

519 % \newlength{\cftbeforebookskip}
520 % \newlength{\cftbookindent}
521 % \newlength{\cftbooknumwidth}
522 \renewcommand*\cftbookfont{}
523 \renewcommand*\cftbookname{}
524 \renewcommand*\cftbookpresnum{}
525 \renewcommand*\cftbookaftersnum{}
526 \renewcommand*\cftbookaftersnumb{}
527 \renewcommand*\cftbookleader{}
528 \renewcommand*\cftbookdotsep{1}
529 \renewcommand*\cftbookpagefont{}
530 \renewcommand*\cftbookafterpnum{}
531 \renewcommand*\cftbookformatpnum[1]{}
532 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by tocloft.

```

533 % \newlength{\cftbeforechapterskip}
534 % \newlength{\cftchapterindent}
535 % \newlength{\cftchapternumwidth}
536 \renewcommand*\cftchapterfont{}
537 \renewcommand*\cftchaptername{}
538 \renewcommand*\cftchapterpresnum{}
539 \renewcommand*\cftchapteraftersnum{}
540 \renewcommand*\cftchapteraftersnumb{}
541 \renewcommand*\cftchapterleader{}
542 \renewcommand*\cftchapterdotsep{1}
543 \renewcommand*\cftchapterpagefont{}
544 \renewcommand*\cftchapterafterpnum{}
545 \renewcommand*\cftchapterformatpnum[1]{}
546 \renewcommand*\cftchapterformatpnumhook[1]{}

547 % \newlength{\cftbeforesectionsip}
548 % \newlength{\cftsectionindent}
549 % \newlength{\cftsectionnumwidth}
550 \renewcommand*\cftsectionfont{}
551 \renewcommand*\cftsectionname{}
552 \renewcommand*\cftsectionpresnum{}
553 \renewcommand*\cftsectionaftersnum{}
554 \renewcommand*\cftsectionaftersnumb{}
555 \renewcommand*\cftsectionleader{}
556 \renewcommand*\cftsectiondotsep{1}
557 \renewcommand*\cftsectionpagefont{}
558 \renewcommand*\cftsectionafterpnum{}

```

```
559 \renewcommand*{\cftsectionformatpnum}[1]{}
560 \renewcommand*{\cftsectionformatpnumhook}[1]{}

561 % \newlength{\cftbeforesubsectionskip}
562 % \newlength{\cftsubsectionindent}
563 % \newlength{\cftsubsectionnumwidth}
564 \renewcommand*{\cftsubsectionfont}{}
565 \renewcommand*{\cftsubsectionname}{}
566 \renewcommand*{\cftsubsectionpresnum}{}
567 \renewcommand*{\cftsubsectionaftersnum}{}
568 \renewcommand*{\cftsubsectionaftersnumb}{}
569 \renewcommand*{\cftsubsectionleader}{}
570 \renewcommand*{\cftsubsectiondotsep}{1}
571 \renewcommand*{\cftsubsectionpagefont}{}
572 \renewcommand*{\cftsubsectionafterpnum}{}
573 \renewcommand*{\cftsubsectionformatpnum}[1]{}
574 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsectionskip}
576 % \newlength{\cftsubsubsectionindent}
577 % \newlength{\cftsubsubsectionnumwidth}
578 \renewcommand*{\cftsubsubsectionfont}{}
579 \renewcommand*{\cftsubsubsectionname}{}
580 \renewcommand*{\cftsubsubsectionpresnum}{}
581 \renewcommand*{\cftsubsubsectionaftersnum}{}
582 \renewcommand*{\cftsubsubsectionaftersnumb}{}
583 \renewcommand*{\cftsubsubsectionleader}{}
584 \renewcommand*{\cftsubsubsectiondotsep}{1}
585 \renewcommand*{\cftsubsubsectionpagefont}{}
586 \renewcommand*{\cftsubsubsectionafterpnum}{}
587 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
588 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraphskip}
590 % \newlength{\cftparagraphindent}
591 % \newlength{\cftparagraphnumwidth}
592 \renewcommand*{\cftparagraphfont}{}
593 \renewcommand*{\cftparagraphname}{}
594 \renewcommand*{\cftparagraphpresnum}{}
595 \renewcommand*{\cftparagraphaftersnum}{}
596 \renewcommand*{\cftparagraphaftersnumb}{}
597 \renewcommand*{\cftparagraphleader}{}
598 \renewcommand*{\cftparagraphdotsep}{1}
599 \renewcommand*{\cftparagraphpagefont}{}
600 \renewcommand*{\cftparagraphafterpnum}{}
601 \renewcommand*{\cftparagraphformatpnum}[1]{}
602 \renewcommand*{\cftparagraphformatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraphskip}
604 % \newlength{\cftsubparagraphindent}
605 % \newlength{\cftsubparagraphnumwidth}
606 \renewcommand*{\cftsubparagraphfont}{}
607 \renewcommand*{\cftsubparagraphname}{}
608 \renewcommand*{\cftsubparagraphpresnum}{}
609 \renewcommand*{\cftsubparagraphaftersnum}{}
610 \renewcommand*{\cftsubparagraphaftersnumb}{}
611 \renewcommand*{\cftsubparagraphleader}{}
612 \renewcommand*{\cftsubparagraphdotsep}{1}
613 \renewcommand*{\cftsubparagraphpagefont}{}
614 \renewcommand*{\cftsubparagraphafterpnum}{}
615 \renewcommand*{\cftsubparagraphformatpnum}[1]{}

```



616 \renewcommand\*{\cftsubparagraphformatpnumhook}[1]{}

617 % \newlength{\cftbeforefigureskip}

618 % \newlength{\cftfigureindent}

619 % \newlength{\cftfigureenumwidth}

620 \renewcommand\*{\cftfigurefont}{}

621 \renewcommand\*{\cftfigurename}{}

622 \renewcommand\*{\cftfigurepresnum}{}

623 \renewcommand\*{\cftfigureaftersnum}{}

624 \renewcommand\*{\cftfigureaftersnumb}{}

625 \renewcommand\*{\cftfigureleader}{}

626 \renewcommand\*{\cftfiguredotsep}{1}

627 \renewcommand\*{\cftfigurepagefont}{}

628 \renewcommand\*{\cftfigureafterpnum}{}

629 \renewcommand\*{\cftfigureformatpnum}[1]{}

630 \renewcommand\*{\cftfigureformatpnumhook}[1]{}

631 % \newlength{\cftbeforesubfigureskip}

632 % \newlength{\cftsubfigureindent}

633 % \newlength{\cftsubfigureenumwidth}

634 \newcommand\*{\cftsubfigurefont}{}

635 \newcommand\*{\cftsubfigurename}{}

636 \newcommand\*{\cftsubfigurepresnum}{}

637 \newcommand\*{\cftsubfigureaftersnum}{}

638 \newcommand\*{\cftsubfigureaftersnumb}{}

639 \newcommand\*{\cftsubfigureleader}{}

640 \newcommand\*{\cftsubfiguredotsep}{1}

641 \newcommand\*{\cftsubfigurepagefont}{}

642 \newcommand\*{\cftsubfigureafterpnum}{}

643 \newcommand\*{\cftsubfigureformatpnum}[1]{}

644 \newcommand\*{\cftsubfigureformatpnumhook}[1]{}

645 % \newlength{\cftbeforetableskip}

646 % \newlength{\cfttableindent}

647 % \newlength{\cfttableenumwidth}

648 \renewcommand\*{\cfttablefont}{}

649 \renewcommand\*{\cfttablename}{}

650 \renewcommand\*{\cfttablepresnum}{}

651 \renewcommand\*{\cfttableaftersnum}{}

652 \renewcommand\*{\cfttableaftersnumb}{}

653 \renewcommand\*{\cfttableleader}{}

654 \renewcommand\*{\cfttabledotsep}{1}

655 \renewcommand\*{\cfttablepagefont}{}

656 \renewcommand\*{\cfttableafterpnum}{}

657 \renewcommand\*{\cfttableformatpnum}[1]{}

658 \renewcommand\*{\cfttableformatpnumhook}[1]{}

659 % \newlength{\cftbeforesubtableskip}

660 % \newlength{\cftsubtableindent}

661 % \newlength{\cftsubtableenumwidth}

662 \newcommand\*{\cftsubtablefont}{}

663 \newcommand\*{\cftsubtablename}{}

664 \newcommand\*{\cftsubtablepresnum}{}

665 \newcommand\*{\cftsubtableaftersnum}{}

666 \newcommand\*{\cftsubtableaftersnumb}{}

667 \newcommand\*{\cftsubtableleader}{}

668 \newcommand\*{\cftsubtabledotsep}{1}

669 \newcommand\*{\cftsubtablepagefont}{}

670 \newcommand\*{\cftsubtableafterpnum}{}

671 \newcommand\*{\cftsubtableformatpnum}[1]{}

672 \newcommand\*{\cftsubtableformatpnumhook}[1]{}

```

673 \renewcommand*{\booknumberline}[1]{}
674 \renewcommand*{\partnumberline}[1]{}
675 \renewcommand*{\chapternumberline}[1]{}
676 \renewcommand*{\numberlinehook}[1]{}
677 % \renewcommand*{\cftwhatismyname}{}%
678 \renewcommand*{\booknumberlinehook}[1]{}
679 \renewcommand*{\partnumberlinehook}[1]{}
680 \renewcommand*{\chapternumberlinehook}[1]{}
681 \renewcommand{\numberlinebox}[2]{}
682 \renewcommand{\booknumberlinebox}[2]{}
683 \renewcommand{\partnumberlinebox}[2]{}
684 \renewcommand{\chapternumberlinebox}[2]{}
685 %
686 % \newlength{\cftparfillskip}
687 \renewcommand*{\cftpagenumbersoff}[1]{}
688 \renewcommand*{\cftpagenumberson}[1]{}
689 \renewcommand*{\cftlocalchange}[3]{}
690 \renewcommand*{\cftaddtitleline}[4]{}
691 \renewcommand*{\cftaddnumtitleline}[4]{}
692 \renewcommand{\cftinsertcode}[2]{}
693 \renewcommand{\cftinserthook}[2]{}
694 \renewcommand{\settocpreprocessor}[2]{}
695 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
696 \DeclareRobustCommand{\cftpagenumberson}[1]{}

```

## § 692.11 Floats and captions

\@xfloat

\@xdblfloat

Reestablish lwarp's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def\@xfloat #1[#2]{%
699   \LWR@floatbegin{#1}[#2]
700   \normalsize
701   \@nameuse{#1adjustment}%
702   \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def\@xdblfloat #1[#2]{%
705   \LWR@floatbegin{#1}[#2]
706   \normalsize
707   \@nameuse{#1adjustment}%
708   \LWR@futurenonspacel\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }

```

\newfloat

[<1: *within*>] {<2: *type*>} {<3: *ext*>} {<4: *capname*>}

```

711 \RenewDocumentCommand{\newfloat}{o m m m}{%
712   \def\LWR@tempone{#4}%
713   \def\LWR@temptwo{\@nameuse{#2name}}%
714   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715     \IfValueTF{#1}%
716       {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
717       {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
718   }{% not recursive name
719     \IfValueTF{#1}%
720     {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721     {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722   }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
723 \cslet{listof#2s}\relax%
724 \cslet{listof#2es}\relax%
725 }
```

`\newlistof`

`[<within>] {<type>} {<ext>} {<listofname>}`

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```
726 \RenewDocumentCommand{\newlistof}{o m m m}
727 {%
728   \IfValueTF{#1}%
729     {\newlistentry[#1]{#2}{#3}{0}}%
730     {\newlistentry{#2}{#3}{0}}%
731   \@namedef{ext@#2}{#3}%
732   \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
733   \setcounter{#3depth}{1}%
734   \@namedef{#3mark}{}%
735   \@namedef{#2}{\LWR@listof{#2}{#4}}%
736   \@namedef{@cftmake#3title}{}%
737   \@ifundefined{cftbefore#3titleskip}{}%
738     \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
739     \expandafter\newlength\csname cftafter#3titleskip\endcsname%
740   }{}%
741   \@namedef{cft#3titlefont}{}%
742   \@namedef{cftafter#3title}{}%
743   \@namedef{cft#3prehook}{}%
744   \@namedef{cft#3posthook}{}%
745 }

746 \renewcommand{\setfloatadjustment}[2]{}
```

Borrowed from the `lwarp` version of `keyfloat`:

```
747 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
748 {% start
749   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
750   \renewcommand*{\@capttype}{#2}%
751 }
752 {%
753   \endLWR@BlockClassWP%
754 }
755
756 \DeclareDocumentEnvironment{marginfigure}{o}
757   {\begin{KFLTmemoir@marginfloat}{figure}}
758   {\end{KFLTmemoir@marginfloat}}
759
760 \DeclareDocumentEnvironment{margintable}{o}
761   {\begin{KFLTmemoir@marginfloat}{table}}
762   {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*{\mpjustification}{}
766 \renewcommand*{\setfloatlocations}[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}
768 \renewcommand*{\FloatBlock}{}

```

```

769 \renewcommand*\FloatBlockAllowAbove{}
770 \renewcommand*\FloatBlockAllowBelow{}
771 \renewcommand*\setFloatBlockFor{}
772
773 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in caption.

```

774 \renewcommand{\flegtable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtocfigure}{}
777 \renewcommand{\flegtocfigure}{}

778 \renewcommand{\@makesubfloatcaption}[2]{%
779     \minipagefullwidth
780     \begin{minipage}{\linewidth}%
781     #1 \ignorespaces #2 \unskip%
782     \end{minipage}
783 }
784
785 \renewcommand*\tightsubcaptions{}
786 \renewcommand*\loosesubcaptions{}
787
788 \renewcommand*\subcaptionsize[1]{}
789 \renewcommand*\subcaptionlabelfont[1]{}
790 \renewcommand*\subcaptionfont[1]{}
791 \renewcommand*\subcaptionstyle[1]{}
792
793 \renewcommand*\hangsubcaption{}
794 \renewcommand*\shortsubcaption{}
795 \renewcommand*\normalsubcaption{}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}
799 {%
800     \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801     \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*\setsidecaps[2]{}
807 \renewcommand*\sidecapmargin[1]{}
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*\setsidecapps[1]{}

```

Env sidecontcaption

```

811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814     \ifdef{\ContinuedFloat}%
815         {\ContinuedFloat}%
816         {\addtocounter{\@capttype}{-1}}%
817     \caption{#1}%

```

Without `\@capttype`, the section is referred to instead.

```
818 \IfValueT{#2}{\label[\@capttype]{#2}}%
819 }
```

`\sidenamedlegend` does not appear to use the `toc` argument.

```
820 \renewenvironment{sidenamedlegend}[2][]{
821   \begin{center}
822     \nameuse{\@capttype name}\CaptionSeparator#2
823   \end{center}
824 }
825 {}
826
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829   #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*\sidedcapstyle{}
835 \renewcommand*\overridescapmargin}[1]{}
836 % \newlength\sidedcapraise
837 \renewcommand*\sidedcapfloatwidth{\linewidth}
838
839 \LetLtxMacro\ctabular\tabular
840 \LetLtxMacro\endctabular\endtabular
841
842 \renewcommand{\autorows}[5][]{%
843   #5%
844 }
845
846 \renewcommand{\autocolS}[5][]{%
847   #5%
848 }
```

## § 692.12 Footnotes and page notes

```
849 \renewcommand*\feetabovefloat{}
850 \renewcommand*\feetbelowfloat{}
851 \renewcommand*\feetatbottom{}
852
853 \renewcommand*\verbfootnote}[2][]{%
854   \PackageError{lwarp,memoir}%
855     {Verbatim footnotes are not yet supported by lwarp}%
856     {This may be improved some day.}%
857 }
858
859 \renewcommand*\plainfootnotes{}
860 \renewcommand*\twocolumnfootnotes{}
861 \renewcommand*\threecolumnfootnotes{}
862 \renewcommand*\paragraphfootnotes{}
863 \renewcommand*\footfudgefiddle{}
864
865 \renewcommand*\newfootnoteseries}[1]{%
866   \PackageError{lwarp,memoir}%
867     {Memoir footnote series are not yet supported by lwarp}%
868     {This may be improved some day.}%
869 }
870
```

```
871 \renewcommand*{\plainfootstyle}[1]{}
872 \renewcommand*{\twocolumnfootstyle}[1]{}
873 \renewcommand*{\threecolumnfootstyle}[1]{}
874 \renewcommand*{\paragraphfootstyle}[1]{}
875
876 \renewcommand*{\footfootmark}{}
877 \renewcommand*{\footmarkstyle}[1]{}
878
879 % \newlength{\footmarkwidth}
880 % \newlength{\footmarksep}
881 % \newlength{\footparindent}
882
883 \renewcommand*{\foottextfont}{}
884
885 \renewcommand*{\marginparmargin}[1]{}
886 \renewcommand*{\sideparmargin}[1]{}
887
888 \LetLtxMacro\sidepar\marginpar
889 \renewcommand*{\sideparfont}{}
890 \renewcommand*{\sideparform}{}
891 \LWR@providelength{\sideparvshift}
892
893 \renewcommand*{\parnopar}{}
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
896 \renewcommand*{\sidebarmargin}[1]{}
897 \renewcommand*{\sidebarfont}{}
898 \renewcommand*{\sidebarform}{}
899 % \newlength{\sidebarhsep}
900 % \newlength{\sidebarvsep}
901 % \newlength{\sidebarwidth}
902 % \newlength{\sidebartopsep}
903 \renewcommand{\setsidebarheight}[1]{}
904 \renewcommand*{\setsidebars}[6]{}
905 \renewcommand*{\footnotesatfoot}{}
906 \renewcommand*{\footnotesinmargin}{}
907
908 \LetLtxMacro\sidefootnote\footnote
909 \LetLtxMacro\sidefootnotemark\footnotemark
910 \LetLtxMacro\sidefootnotetext\footnotetext
911
912 \renewcommand*{\sidefootmargin}[1]{}
913 % \newlength{\sidefoothsep}
914 % \newlength{\sidefootvsep}
915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*{\setsidefootheight}[1]{}
919 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
920 \renewcommand*{\setsidefeet}[6]{}
921 \renewcommand*{\sidefootmarkstyle}[1]{}
922 \renewcommand*{\sidefoottextfont}{}
923 \renewcommand*{\sidefootform}{}

924 \renewcommand*{\continuousnotenums}{\pncontopttrue}% from pagenote
925 \renewcommand*{\notepageref}{}
926 \renewcommand*{\prenotetext}{}
927 \renewcommand*{\postnotetext}{}
928 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
929 \renewcommand*{\foottopagenote}{}

```

```
930 \renewcommand*{\pagetofootnote}{}
```


```
\m@m@wrpnote
```

```
\startnoteentrystart
```

To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```
931 \xpatchcmd{\m@m@wrpnote}
932   {\string\startnoteentry{\thepagenote}}
933   {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
934   {}
935   {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938   \prenoteinnotes%
939   \noteidinnotes{\@firstoftwo#1}{#2}%
940   \ifmtarg{#2}{%
941     \phantomsection\def\@currentlabel{#1}%           original
942     \def\@currentlabel{\@firstoftwo#1}%             lwarp
943     \def\cref@currentlabel{%                         lwarp
944       [pagenote][\@secondoftwo#1][\@firstoftwo#1%   lwarp
945     ]%   lwarp
946   }%
947   \pagenoteanchor{#4}%
948   \pageinnotes{#3}%
949   \prenotetext%
950 }
```

### § 692.13 Decorative text

```
951 \renewcommand*{\epigraphposition}[1]{}
952 \renewcommand*{\epigraphtextposition}[1]{}
953 \renewcommand*{\epigraphsourceposition}[1]{}
954 \renewcommand*{\epigraphfontsize}[1]{}
955 \renewcommand*{\epigraphforheader}[2][1]{}
956 \renewcommand*{\epigraphpicture}{}
```

### § 692.14 Poetry

```
957 \renewcommand*{\vinphantom}{}
958 \renewcommand*{\vleftofline}[1]{#1}
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*{\linenumberfont}[1]{}
961
962 \DeclareDocumentCommand{\PoemTitle}{s o m}{%
963   \IfValueTF{#2}%
964     {\poemtitle[#2]{#4}}%
965     {\poemtitle{#4}}%
966 }
967
968 \renewcommand*{\NumberPoemTitle}{}
969 \renewcommand*{\PlainPoemTitle}{}
970 \renewcommand*{\poemtitlepstyle}{}

```

```

971 \renewcommand*\poemtitlestarmark}[1]{}
972 \renewcommand*\poemtitlestarpstyle}{}
973 \renewcommand*\PoemTitleheadstart}{}
974 \renewcommand*\printPoemTitlenonum}{}
975 \renewcommand*\printPoemTitlenum}{}
976 \renewcommand*\afterPoemTitlenum}{}
977 \renewcommand*\printPoemTitletitle}[1]{}
978 \renewcommand*\afterPoemTitle}{}
979 \newlength{\midpoemtitleskip}
980 \renewcommand*\PoemTitlenumfont}{}
981 \renewcommand*\PoemTitlefont}{}

```

### § 692.15 **Boxes, verbatims and files**

```

982 \renewenvironment{qframe}{\famed}{\endfamed}
983 \renewenvironment{qshade}{\shaded}{\endshaded}

984 \renewcommand*\setverbatimfont}[1]{}
985 \renewcommand*\tabson}[1]{}
986 \renewcommand*\tabsoff}{}
987 \renewcommand*\wrappingon}{}
988 \renewcommand*\wrappingoff}{}
989 \renewcommand*\verbatimindent}{}
990 \renewcommand*\verbatimbreakchar}[1]{}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.

```

992 \renewcommand*\bvbox}{}
993 \renewcommand*\bvtopandtail}{}
994 \renewcommand*\bvtopandtail}{}
995 \renewcommand*\nobvbox}{}
996 % \newlength\bvboxsep
997 \renewcommand*\bvtoprulehook}{}
998 \renewcommand*\bvtopmidhook}{}
999 \renewcommand*\bvendrulehook}{}
1000 \renewcommand*\bvleftsidehook}{}
1001 \renewcommand*\bvrightsidehook}{}
1002 \renewcommand*\bvperpagetrue}{}
1003 \renewcommand*\bvperpagefalse}{}
1004 \renewcommand{\bvtopofpage}[1]{}
1005 \renewcommand{\bvendofpage}[1]{}
1006 \renewcommand*\linenumberfrequency}[1]{}
1007 \renewcommand*\resetbvlینumber}{}
1008 \renewcommand*\setbvlینums}[2]{}
1009 \renewcommand*\linenumberfont}[1]{}
1010 \renewcommand*\bvnumbersinside}{}
1011 \renewcommand*\bvnumbersoutside}{}

```

### § 692.16 **Cross referencing**

```

1012 \renewcommand*\fref}[1]{\cref{#1}}
1013 \renewcommand*\tref}[1]{\cref{#1}}
1014 \renewcommand*\pref}[1]{\cpageref{#1}}
1015 \renewcommand*\Aref}[1]{\cref{#1}}
1016 \renewcommand*\Bref}[1]{\cref{#1}}
1017 \renewcommand*\Pref}[1]{\cref{#1}}

```



```

1018 \renewcommand*\Sref}[1]{\cref{#1}}
1019 \renewcommand*\figurerefname}{Figure}
1020 \renewcommand*\tablerefname}{Table}
1021 \renewcommand*\pagerefname}{page}
1022 \renewcommand*\bookrefname}{Book~}
1023 \renewcommand*\partrefname}{Part~}
1024 \renewcommand*\chapterrefname}{Chapter~}
1025 \renewcommand*\sectionrefname}{\S}
1026 \renewcommand*\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleref\nameref
1028 \renewcommand*\headnameref){}
1029 \renewcommand*\tocnameref){}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*\currenttitle){%
1034   \addtocounter{LWR@currenttitle}{1}%
1035   \label{currenttitle\arabic{LWR@currenttitle}}%
1036   \nameref{currenttitle\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*\theTitleReference}[2]{}
1040 \renewcommand*\namerefon){}
1041 \renewcommand*\namerefoff){}

```

### § 692.17 Back matter

\@@wrindexhyp

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1042 \AtBeginDocument{
1043
1044 \def\@@wrindexhyp#1||\{\%
1045   \addtocounter{LWR@autoindex}{1}%           lwarp
1046 %   \ifshowindexmark\@showidx{#1}\fi
1047   \protected@write\@auxout{)%
1048 %     {\string\@@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1049     {\string\@@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}% lwarp

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1050   \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
1051   \endgroup
1052   \@esphack}%

```

\@@wrspindexhyp

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1053 \def\@@wrspindexhyp#1||\{\%
1054   \addtocounter{LWR@autoindex}{1}%
1055 %   \ifshowindexmark\@showidx{#1}\fi
1056   \protected@write\@auxout{)%
1057 %     {\string\@@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1058     {\string\@@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1059   \label{LWRindex-\arabic{LWR@autoindex}}%
1060   \endgroup
1061   \@esphack}%
1062

```

```
1063 }% \AtBeginDocument
```

\spindex

Patched to append \_html to the file:

```
1064 \renewcommand{\spindex}[2]{%
1065   \ifundefined{#1@idxfile}%
1066   {\ifreportnoidxfile
1067     \@memwarn{Undefined index file #1}%
1068     \fi
1069     \begingroup
1070     \@sanitize
1071     \@nowrindex}%
1072   {\def\@idxfile{#1_html}%
1073     \def\@sptheid{#2}%
1074     \begingroup
1075     \@sanitize
1076     \@wrspindex}}
```

\makeindex

Patched to use \_html filename and \BaseJobname:

```
1077 \catcode'\_ =12%
1078 \renewcommand*\makeindex[1][\BaseJobname]{%
1079   \if@filesw
1080     \def\gindex{\@bsphack%
1081       \ifnextchar [{\@index}{\@index[\BaseJobname]}}
1082     \def\specialindex{\@bsphack\@spindex}%
1083     \makememindexhook
1084     \expandafter\newwrite\csname #1@idxfile\endcsname
1085     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086     \typeout{Writing index file #1_html.idx }%
1087     \fi}
1088 \catcode'\_ =8%
```

\printindex

Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```
1089 \catcode'\_ =12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1091 \catcode'\_ =8%

1092 \DeclareDocumentCommand{\newblock}{}{}
1093 %
1094 \renewcommand*\showindexmarks{}
1095 \renewcommand*\hideindexmarks{}
1096
1097 \renewcommand*\xindyindex{}
```

## § 692.18 Miscellaneous

```
1098 \renewcommand*\changemarks{}
1099 \renewcommand*\nochangemarks{}
1100 \renewcommand*\added[1]{}
1101 \renewcommand*\deleted[1]{}
1102 \renewcommand*\changed[1]{}
1103
1104 \renewcommand*\showtrimsoff{}
1105 \renewcommand*\showtrimson{}
1106 \renewcommand*\trimXmarks{}
1107 \renewcommand*\trimLmarks{}
```

```

1108 \renewcommand*\trimFrame{}
1109 \renewcommand*\trimNone{}
1110 \renewcommand*\trimmarkscolor{}
1111 \renewcommand*\trimmarks{}
1112 \renewcommand*\tmarktl{}
1113 \renewcommand*\tmarktr{}
1114 \renewcommand*\tmarkbr{}
1115 \renewcommand*\tmarkbl{}
1116 \renewcommand*\tmarktm{}
1117 \renewcommand*\tmarkmr{}
1118 \renewcommand*\tmarkbm{}
1119 \renewcommand*\tmarkml{}
1120 \renewcommand*\trimmark{}
1121 \renewcommand*\quarkmarks{}
1122 \renewcommand*\registrationColour}[1]{}
1123
1124 \renewcommand*\leavespergathering}[1]{}
1125
1126 \renewcommand*\noprelistbreak{}
1127
1128 \renewcommand*\cleartorecto{}
1129 \renewcommand*\cleartoverso{}
1130
1131 \renewenvironment{vplace}[1][1]{}{}

```

### § 692.19 **ccaption emulation**

```

1132 \renewcommand*\captiondelim}[1]{\renewcommand*\CaptionSeparator{#1}}
1133 \renewcommand*\captionnamefont}[1]{}
1134 \renewcommand*\captiontitlefont}[1]{}
1135 \renewcommand*\flushleft{}
1136 \renewcommand*\centerlastline{}
1137 \renewcommand*\captionstyle}[2][1]{}
1138 \DeclareDocumentCommand\captionwidth}{m}{}
1139 \renewcommand*\changecaptionwidth{}
1140 \renewcommand*\normalcaptionwidth{}
1141 \renewcommand*\hangcaption{}
1142 \renewcommand*\indentcaption}[1]{}
1143 \renewcommand*\normalcaption{}
1144 \renewcommand\precaption}[1]{}
1145 \renewcommand\postcaption}[1]{}
1146 \renewcommand\midbicapTION}[1]{}
1147 \renewcommand\contcaption}[1]{%
1148 % \ContinuedFloat%
1149 % \caption{#1}%
1150 \begin{LWR@figcaption}% later becomes \caption*
1151 \LWR@isolate{\@nameuse{\@capytype name}}~%
1152 \thechapter.\the\value{\@capytype}\CaptionSeparator\LWR@isolate{#1}%
1153 \end{LWR@figcaption}%
1154 }

1155 \newlength\abovelegendskip
1156 \setlength\abovelegendskip{0.5\baselineskip}
1157 \newlength\belowlegendskip
1158 \setlength\belowlegendskip\abovelegendskip

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1159 \renewcommand\legend}[1]{\begin{center}#1\\end{center}}
1160

```

```

1161 \renewcommand{\namedlegend}[2][{}]{%
1162   \begin{center}
1163     \@nameuse{fleg\@capttype}\CaptionSeparator#2\
1164   \end{center}
1165   \@nameuse{flegtoc\@capttype}{#1}
1166 }

```

`\flegtable`, `\flegfigure`, `\flegtocable`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168   \renewcommand{#2}{\def\@capttype{#3}#1}}
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170   \renewcommand{#2}{\def\@capttype{#3}#1}}
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172   \providecommand{#2}{\def\@capttype{#3}#1}}
1173
1174 \renewcommand{\bitwonumcaption}[6][{}]{%
1175   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1176   \addtocounter{\@capttype}{-1}%
1177   \begingroup%
1178   \csdef{\@capttype name}{#4}%
1179   \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1180   \endgroup%
1181   \ifblank{#1}{}{\label{#1}}%
1182 }
1183
1184 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1185
1186 \renewcommand{\bicaption}[5][{}]{%
1187   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1188   \begin{LWR@figcaption}% later becomes \caption*
1189     \LWR@isolate{#4} % space
1190     \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1191   \end{LWR@figcaption}%
1192   \ifblank{#1}{}{\label{#1}}%
1193 }
1194
1195 \renewcommand{\bicontcaption}[3]{%
1196   \contcaption{#1}%
1197   \begingroup%
1198   \csdef{\@capttype name}{#2}%
1199   \contcaption{#3}%
1200   \endgroup%
1201 }

```

Only in `ccaption`, not in memoir:

```

1202 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1205 \renewcommand{\@memsubbody}{%
1206   \bgroup
1207   \let\label=\memsub@label
1208   \ifdonemaincaption\else
1209     \advance\csname c@\@capttype\endcsname\@ne
1210   \fi

```

```

1211 % \refstepcounter{sub\@capttype}\@contkeep%
1212 % \leavevmode%          lwarp
1213 \@ifnextchar [%
1214   {\@memsubfig}%
1215   {\@memsubfig[\@empty]}}
1216
1217 \renewcommand{\@memcontsubbody}{%
1218   \bgroup
1219   \let\label=\memsub@label
1220   \@contset
1221   % \refstepcounter{sub\@capttype}\@contkeep%
1222 % \leavevmode%          lwarp
1223 \@ifnextchar [%
1224   {\@memsubfig}%
1225   {\@memsubfig[\@empty]}}
1226
1227
1228 \long\def\@memsubfloat#1[#2][#3]#4{%
1229 % \@tempcnta=\@ne
1230 % \if@tightsubcap
1231 % \if@minipage
1232 % \@tempcnta=\z@
1233 % \else
1234 % \ifdim\lastskip=\z@
1235 % \@tempcnta=\@ne
1236 % \else
1237 % \@tempcnta=\tw@
1238 % \fi
1239 % \fi
1240 % \fi
1241 % \if@contbotsub
1242 % \def\subfig@top{\subfloattopskip}%
1243 % \def\subfig@bottom{\subfloatbottomskip}%
1244 % \else
1245 % \def\subfig@top{\subfloatbottomskip}%
1246 % \def\subfig@bottom{\subfloattopskip}%
1247 % \fi
1248 % \setbox\@tempboxa \hbox{#4}%
1249 % \@tempdima=\wd\@tempboxa
1250 % \vbox
1251 \bgroup%
1252 \mem@step@subcounter%
1253 % \vbox
1254 \LWR@stoppars%
1255 \minipagefullwidth%          lwarp
1256 \begin{minipage}{\linewidth}% lwarp
1257 \bgroup
1258 % \ifcase\@tempcnta
1259 % \@minipagefalse
1260 % \or
1261 % \vspace{\subfig@top}
1262 % \or
1263 % \ifdim \lastskip=\z@ \else
1264 % \@tempskip\subfig@top\@xaddvskip
1265 % \fi
1266 % \fi
1267 \if@contbotsub
1268 #4% \box\@tempboxa
1269 \egroup
1270 \ifx \@empty#3\relax \else

```

```

1271 %         \vskip\subfloatcapskip
1272         \@memsubcaption{#1}{#2}{#3}%
1273     \fi
1274     \else
1275         \ifx \@empty#3\relax \else
1276         \@memsubcaption{#1}{#2}{#3}%
1277 %         \vskip\subfloatcapskip
1278 %         \vskip\subfloatcaptopadj
1279     \fi\egroup
1280     #4% \box\@tempboxa
1281     \fi
1282 %     \vspace{\subfig@bottom}
1283     \end{minipage}%           lwarp
1284     \LWR@startpars%         lwarp
1285 \egroup
1286 \egroup
1287 }

```

## § 692.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 584 **lwarp-common-multimedia.sty**

§ 693 Package **common-multimedia**

Pkg lwarp-common-multimedia Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each address=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7
7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11   \setlength{\LWR@multimedia@maxdimension}{%
12     \maxof%
13       {\linewidth}%
14       {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15   }%
16   \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17   \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18     width:%
19     \LWR@printpercentlength%
20       {\LWR@multimedia@width}%
21       {\LWR@multimedia@maxdimension}vmin ; % space
22   }%
23   \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24     height:%
25     \LWR@printpercentlength%
26       {\LWR@multimedia@height}%
27       {\LWR@multimedia@maxdimension}vmin ; % space
28   }%
29 }

```

`\LWR@multimedia@fileAV`

`{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{ }[\LWR@parsedfilename]}%

```

The container `<div>` is sized as desired.

```

33   \ifstrequal{#3}{audio}{%

```

```

34     \begin{BlockClass}{AVviewport}
35   }{%
36     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37   }

```

Paragraph tags are unnecessary for the A/v tags.

```
38   \LWR@stoppars
```

The A/v element is 100% of the container.

```

39   \LWR@htmltag{%
40     #3\ % space
41     \ifstrequal{#3}{audio}{}{%
42       width=\textquotedbl{}100%\textquotedbl\ % space
43       height=\textquotedbl{}100%\textquotedbl\ % space
44     }%
45     controls%
46   }\LWR@orignewline

```

The file source and type:

```

47   \LWR@htmltag{%
48     source % space
49     src=\textquotedbl%
50     \LWR@parsedfilename\unskip\textquotedbl\ % space
51     type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52   \LWR@startpars
53   \LWR@href{\LWR@parsedfilename}{#1}
54   \LWR@stoppars

```

Finish.

```

55   \LWR@htmltag{/#3}\LWR@orignewline
56   \end{BlockClass}
57 }{%
58   \PackageError{lwarp-common-multimedia}
59     {File '#2' not found}
60     {Perhaps an incorrect path?}
61 }%
62 }

```

`\LWR@multimedia@httpAV`      `{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```

64   \ifstrequal{#3}{audio}{%
65     \begin{BlockClass}{AVviewport}
66   }{%
67     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68   }

```

Paragraph tags are unnecessary for the A/v tags.

```
69   \LWR@stoppars
```

The A/v element is 100% of the container.

```

70   \LWR@htmltag{%
71     #3\ % space

```



```

72     \ifstrequal{#3}{audio}{}{%
73         width=\textquotedbl{}100%\textquotedbl\ % space
74         height=\textquotedbl{}100%\textquotedbl\ controls%
75     }%
76 } \LWR@orignewline

```

The file source and type:

```

77 \LWR@htmltag{%
78     source % space
79     src=\textquotedbl#2\textquotedbl\ % space
80     type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars

```

Finish.

```

84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }

```

\LWR@multimedia@AV

{<poster text>} {<filename>} {<audio/video>} {<mimetype>}

Creates an audio or video from a file or a URL.

```

87 \newcommand*\LWR@multimedia@AV[4]{%
88     \IfBeginWith{#2}{http}%
89     {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90     {%
91         \IfBeginWith{#2}{HTTP}%
92         {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93         {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94     }%
95 }

```

\LWR@multimedia@embed

{<poster text>} {<URL or filename>} {<mime type>}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*\LWR@multimedia@embed[3]{%
97     \begin{BlockClass}[width:100%\AVviewport]%
98     \LWR@stoppars
99     \LWR@htmltag{%
100         embed % space
101         \ifblank{#3}{}{type=\textquotedbl#3\textquotedbl\ }%
102         style=\textquotedbl\LWR@multimedia@printsizes\ margin:auto\textquotedbl\ % space
103         src=\textquotedbl#2\textquotedbl\ % space
104     }%
105 \LWR@startpars
106 \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of

\LWR@multimedia@percenterror

\LWR@multimedia@b.

```

108 \newcommand*\LWR@multimedia@percenterror){%
109     \PackageError{lwarp-media9}
110     {%

```

```

111         Do not use a percent comment between\MessageBreak
112         \protect\includemedia\space arguments%
113     }
114     {%
115         Percent is changed to a regular character\MessageBreak
116         to allow its use inside a URL.%
117     }
118 }

```

\LWR@multimediab

[*<options>*] [*<poster text>*] [*<filename>*]

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*\LWR@multimediab[3][[]]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120     \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121     \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122     \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123     \LWR@stoppars%
```

Record the desired size.

```

124     \setlength{\LWR@multimedia@width}{0pt}%
125     \setlength{\LWR@multimedia@height}{0pt}%
126     \setkeys*\LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127     \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128     \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129     \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130     \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131     \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132     \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133     \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134     \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135         \LWR@href{#3}{#2}% unknown format
136     }}}}]}%

```

Paragraph handling:

```

137     \LWR@startpars%
138     \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*\LWR@multimedia}{%
141     \begingroup%
142     \LWR@linkmediacatcodes%
143     \LWR@multimediab%
144 }

```

File 585 **lwarp-common-mathjax-letters.sty**

§ 694 Package **common-mathjax-letters**

Pkg Common code used by a number of packages to generate Greek math characters  
 lwarp-common-mathjax-letters for MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {\<2: capitalize name?\>} {\<3: prefix\>} {\<4: postfix\>} {\<5: name\>} {\<6: unicode\>}

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5   \IfBooleanTF{#2}%
6     {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7     {\edef\LWR@tempone{#5}}%
8   \xdef\LWR@customizedMathJax{%
9     \LWR@customizedMathJax%
10    \LWRbackslash(%
11    \LWRbackslash def\LWRbackslash%
12    #3% prefix
13    \LWR@tempone%name
14    #4% postfix
15    \LWRleftbrace%
16  }%
17  \IfBooleanTF{#1}{%
18    \xdef\LWR@customizedMathJax{%
19      \LWR@customizedMathJax%
20      \LWRbackslash mathit\LWRleftbrace%
21      \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22      \LWRrightbrace%
23    }%
24  }{%
25    \xdef\LWR@customizedMathJax{%
26      \LWR@customizedMathJax%
27      \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28    }%
29  }%
30  \xdef\LWR@customizedMathJax{%
31    \LWR@customizedMathJax%
32    \LWRrightbrace\LWRbackslash)\par%
33  }%
34 }

```

\* {\<2: prefix\>} {\<3: postfix\>}

\LWR@mathjax@addgreek@l@up Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}

```

```

37 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}

```

```

90 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6E2}

```

```

136 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D746}
186 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{1D747}

```

```

189 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@u@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D734}
224 }

```

\LWR@mathjax@addgreek@u@bfup is not needed.

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@u@bfup

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6AD}

```

```

233 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

*{\prefix}*

`\LWR@mathjax@addLatin@u@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addLatin@u@bfit}{m}{
254   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{A}{1D468}
255   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{B}{1D469}
256   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{C}{1D46A}
257   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{D}{1D46B}
258   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{E}{1D46C}
259   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{F}{1D46D}
260   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{G}{1D46E}
261   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{H}{1D46F}
262   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{I}{1D470}
263   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{J}{1D471}
264   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{K}{1D472}
265   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{L}{1D473}
266   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{M}{1D474}
267   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{N}{1D475}
268   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{O}{1D476}
269   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{P}{1D477}
270   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Q}{1D478}
271   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{R}{1D479}
272   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{S}{1D47A}
273   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{T}{1D47B}
274   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{U}{1D47C}
275   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{V}{1D47D}
276   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{W}{1D47E}
277   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{X}{1D47F}
278   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Y}{1D480}
279   \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

*{\prefix}*

`\LWR@mathjax@addLatin@l@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addLatin@l@bfit}{m}{

```



```

282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

---

File 586 **lwarp-common-mathjax-newpctxmath.sty**

§ 695 Package **common-mathjax-newpctxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

lwarp-common-mathjax-newpctxmath  
**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}

```

```

13
14 \CustomizeMathJax{\let\smlbrace\{}}
15 \CustomizeMathJax{\let\smrbrace\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgrouppra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergrouppla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35   \stackrel{\unicode{x2218}}{\overgroup{#1}}%
36 }}
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wideOarc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvstar\overrightarrow}}
41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallloointsl}{\mathop{\unicode{x222F}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalllooiintsl}{\mathop{\unicode{x2230}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallvarointclockwisel}{%
50   \mathop{\unicode{x2232}}\limits%
51 }}
52 \CustomizeMathJax{\newcommand{\smallointctrlockwisel}{%
53   \mathop{\unicode{x2233}}\limits%
54 }}
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallloointup}{\mathop{\unicode{x222F}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalllooiintup}{\mathop{\unicode{x2230}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
67   \mathop{\unicode{x2232}}\limits%
68 }}
69 \CustomizeMathJax{\newcommand{\smallointctrlockwiseup}{%
70   \mathop{\unicode{x2233}}\limits%
71 }}

```

```

72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiiintsl}{\mathop{\unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwisel}{\mathop{\unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}
101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{%
108   \mathop{\unicode{x2232}}\limits}%
109 }}
110 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{%
111   \mathop{\unicode{x2233}}\limits}%
112 }}
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
120 %
121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %
125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}

```

```

129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
137 %

138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143   \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}}%
144 }}
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146   \mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}}%
147 }}
148 %

149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
156 %
157
158 \CustomizeMathJax{\newcommand{\nprecsim}{%
159   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}}%
160 }}
161 \CustomizeMathJax{\newcommand{\nsucsim}{%
162   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}}%
163 }}
164 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
165 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
166 %

167 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
168 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
169 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
170 \CustomizeMathJax{\let\notowns\notni}
171 %
172 \CustomizeMathJax{\newcommand{\nlessapprox}{%
173   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}}%
174 }}
175 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
176   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}}%
177 }}
178 %
179 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
180   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}}%
181 }}

```

```

182 \CustomizeMathJax{\newcommand{\succcurlyeq}{%
183   \mathrel{\LWOverlaysymbols{/}{\unicode{x0227D}}}%
184 }}
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpeq}{%
188   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224F}}}%
189 }}
190 \CustomizeMathJax{\newcommand{\nBumpeq}{%
191   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224E}}}%
192 }}
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195   \mathrel{\LWOverlaysymbols{/}{\unicode{x0223D}}}%
196 }}
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198   \mathrel{\LWOverlaysymbols{/}{\unicode{x022CD}}}%
199 }}
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226A}}}%
206 }}
207 \CustomizeMathJax{\newcommand{\ngg}{%
208   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226B}}}%
209 }}
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211   \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%
212 }}
213 \CustomizeMathJax{\newcommand{\napproxeq}{%
214   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}%
215 }}
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}%
218 }}
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}%
221 }}
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}%
224 }}
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}%
227 }}
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}%
232 }}
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}%
235 }}
236 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}

```

```

242 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
243 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
244 %
245 \CustomizeMathJax{\newcommand{\lvec}[1]{%
246   \mathord{\overset{\unicode{x02190}}{#1}}%
247 }}
248 \CustomizeMathJax{\newcommand{\rvec}[1]{%
249   \mathord{\overset{\unicode{x2194}}{#1}}%
250 }}
251 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{%
252   \mathord{\overset{\unicode{x021C0}}{#1}}%
253 }}
254 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{%
255   \mathord{\overset{\unicode{x021BC}}{#1}}%
256 }}
257 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{%
258   \mathord{\overset{\unicode{x0294E}}{#1}}%
259 }}
260 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
261 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
262 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
263 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
264 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{#1}}}}
265 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
266 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
267 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
268 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{#1}}}}}
269
270 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
271 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
272 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
273 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
274 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
275 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
276 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
277
278 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

284 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
285 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
287
288 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
290 \CustomizeMathJax{\newcommand{\nplus}{%
291   \mathrel{\LWRoverlaysymbols+}{\unicode{x02229}}}%
292 }}
293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294   \mathrel{\LWRoverlaysymbols/}{\unicode{x0228F}}}%
295 }}
296 \CustomizeMathJax{\newcommand{\nsqsupset}{%

```

```

297 \mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}%
298 }}
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
304 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
307
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
311 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
312
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
319
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{x02294}}}}
321
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%
323 \mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}%
324 }}
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%
326 \mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}%
327 }}
328
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
331
332 \CustomizeMathJax{\newcommand{\varg}{g}}
333 \CustomizeMathJax{\newcommand{\vary}{y}}
334 \CustomizeMathJax{\newcommand{\varv}{v}}
335 \CustomizeMathJax{\newcommand{\varw}{w}}
336
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
341
342 \CustomizeMathJax{\newcommand{\uppartial}{%
343 \mathord{\unicode{x02202}}%
344 }}% not upright
345
346 \CustomizeMathJax{\let\varmathbb\mathbb}
347 \CustomizeMathJax{\let\vmathbb\mathbb}
348 \CustomizeMathJax{\let\vvmathbb\mathbb}
349
350 \CustomizeMathJax{\let\smallprod\prod}
351 \CustomizeMathJax{\let\smallsum\sum}
352 \CustomizeMathJax{\let\smallcoprod\coprod}
353
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
355 \CustomizeMathJax{\let\textsquare\openbox}

```

```

356 \CustomizeMathJax{\let\varepsilon\emptyset}
357 %
358 % for newpxmath:
359 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
360 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
361
362 \end{warpMathJax}

```

File 587 **lwarp-common-mathjax-nonunicode.sty**

§ 696 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-  
lwarp-common-mathjax-nonunicode. These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpctxmath.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{%
24   \mathrel{\unicode{x025A1}\!\!\unicode{x02192}}%
25 }}
26 \CustomizeMathJax{\newcommand{\boxleft}{%
27   \mathrel{\unicode{x02190}\!\!\unicode{x025A1}}%
28 }}
29 \CustomizeMathJax{\newcommand{\boxdotright}{%
30   \mathrel{\unicode{x022A1}\!\!\unicode{x02192}}%
31 }}
32 \CustomizeMathJax{\newcommand{\boxdotleft}{%
33   \mathrel{\unicode{x02190}\!\!\unicode{x022A1}}%
34 }}
35

```



```

36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37   \mathrel{\unicode{x025C7}\!\unicode{x02192}}%
38 }}
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40   \mathrel{\unicode{x02190}\!\unicode{x025C7}}%
41 }}
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43   \mathrel{\unicode{x027D0}\!\unicode{x02192}}%
44 }}
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46   \mathrel{\unicode{x02190}\!\unicode{x027D0}}%
47 }}
48
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50   \mathrel{\unicode{x025A1}\!\unicode{x021D2}}%
51 }}
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53   \mathrel{\unicode{x021D0}\!\unicode{x025A1}}%
54 }}
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56   \mathrel{\unicode{x022A1}\!\unicode{x021D2}}%
57 }}
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59   \mathrel{\unicode{x021D0}\!\unicode{x022A1}}%
60 }}
61
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63   \mathrel{\unicode{x025C7}\!\unicode{x021D2}}%
64 }}
65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66   \mathrel{\unicode{x021D0}\!\unicode{x025C7}}%
67 }}
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69   \mathrel{\unicode{x027D0}\!\unicode{x021D2}}%
70 }}
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72   \mathrel{\unicode{x021D0}\!\unicode{x027D0}}%
73 }}
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
75
76 \CustomizeMathJax{\newcommand{\circleright}{%
77   \mathrel{\unicode{x025CB}\!\unicode{x02192}}%
78 }}
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80   \mathrel{\unicode{x02190}\!\unicode{x025CB}}%
81 }}
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83   \mathrel{\unicode{x02299}\!\unicode{x02192}}%
84 }}
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86   \mathrel{\unicode{x02190}\!\unicode{x02299}}%
87 }}
88 \CustomizeMathJax{\let\circleddotright\circledotright}
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
90
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%

```

```

96  \mathrel{\bullet\!\!\!-\!\!\!\bullet}}%
97 }}
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102  \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{|}}}}%
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105  \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{|}}}}%
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108  \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{|}}}}%
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111  \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{|}}}}%
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115  \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}}%
116 }}
117 \CustomizeMathJax{\let\bigcapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121  \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}}
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124
125 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
126  \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}}
127 }}
128 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
132  \mathrel{\unicode{x0005C}\!\!\!\unicode{x0005C}}}%
133 }}
134
135 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\!\!\unicode{x2237}}}}
136 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\!\!\!\unicode{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143  \mathrel{\unicode{x2237}\!\!\!\approx}}%
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}\!\!\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148  \mathrel{\unicode{x0297D}}}%
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151  \mathrel{\unicode{x0297C}}}%
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154  \mathrel{\unicode{x0297C}\!\!\!\unicode{x0297D}}}%
155 }}% left/right fish tails

```

```

156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
159 }}
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
162 }}
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166   \mathrel{\unicode{x2AA4}}}%
167 }}% overlapping ><
168 \CustomizeMathJax{\newcommand{\openTimes}{%
169   \mathrel{\unicode{x2AA4}}}%
170 }}% overlapping ><
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175   \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\Lambda}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181   \mathbin{\unicode{x02240}}\!\!\unicode{x02240}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftarrow}{%
185   \mathrel{\unicode{x021E0}}\!\!\unicode{x021E2}}%
186 }}
187 \CustomizeMathJax{\let\leftrighthdasharrow\dashleftarrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

---

File 588 **lwarp-common-mathjax-overlaysymbols.sty**

§ 697 Package **common-mathjax-overlaysymbols**

Pkg Common code used by a number of packages to overlay two symbols for MATHJAX.

lwarp-common-mathjax-overlaysymbols

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWROverlaysymbols

$\langle symbol \rangle \langle symbol \rangle$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWROverlaysymbols}[2]{%
5   \mathord{%
6     \smash{%
7       \mathop{\#2\strut}%
8       \limits^{\smash{\lower3ex{\#1}}}%
9     }%
10    \strut%
11  }}%

```

```
12 }}  
13  
14 \end{warpMathJax}
```

# Change History

## § 698 Chg Hist

For the most recent changes, see page [1334](#).

|                                     |                                    |     |
|-------------------------------------|------------------------------------|-----|
| v0.10                               | Added. . . . .                     | 804 |
| General: 2016/03/08 Initial version | 1                                  |     |
| v0.11                               | Ampersand (&): Fixed handling      | 440 |
| General: 2016/03/11 . . . . .       | 1                                  |     |
| Added section: Operating-System     |                                    |     |
| portability. . . . .                | 227                                |     |
| Added section: Selecting the        |                                    |     |
| operating system. . . . .           | 116                                |     |
| Test Suite: MS-WINDOWS in           |                                    |     |
| README.txt . . . . .                | 1                                  |     |
| Test Suite: limages and index in    |                                    |     |
| README.txt . . . . .                | 1                                  |     |
| v0.12                               | Docs: Added warning icons for      |     |
| \LRW@newhtmlfile: Bugfix: TOC       |                                    |     |
| with numbered files. . . . .        | 385                                |     |
| General: 2016/03/14 . . . . .       | 1                                  |     |
| Global: Uses \p@(type) in float     |                                    |     |
| captions. . . . .                   | 1                                  |     |
| Test Suite: Sub-figures . . . . .   | 1                                  |     |
| v0.13                               | Docs: Clarify print/HTML output.   | 116 |
| \CaptionSeparator: Fix for newer    |                                    |     |
| babel package. . . . .              | 511                                |     |
| \LRW@LwarpStart: \up and \fup . .   | 404                                |     |
| General: 2016/03/24 . . . . .       | 1                                  |     |
| Fix dollar-redefined bug for        |                                    |     |
| newer package. . . . .              | 1166                               |     |
| Removed package: subfig . . . . .   | 1                                  |     |
| Test Suite: Ordinals, Subcaption .  | 1                                  |     |
| v0.14                               | Docs: Moved the supported          |     |
| \LRW@htmlsectionfilename: Fix:      |                                    |     |
| Links to home page. . . . .         | 339                                |     |
| General: 2016/03/31 . . . . .       | 1                                  |     |
| floatrow: Added. . . . .            | 800                                |     |
| Docs: Commands for a                |                                    |     |
| successful HTML conversion. . .     | 120                                |     |
| Docs: Commands into a               |                                    |     |
| warpprint environment. . . . .      | 117                                |     |
| Docs: Newclude limitations. . .     | 172                                |     |
| Docs: Table: Cross-referencing      |                                    |     |
| data structures. . . . .            | 493                                |     |
| Docs: Table: Float data             |                                    |     |
| structures. . . . .                 | 507                                |     |
| Docs: Trademarks section. . . .     | 199                                |     |
| Docs: Troubleshooting               |                                    |     |
| cross-references. . . . .           | 194                                |     |
| Test Suite: Assigned cleveref       |                                    |     |
| name for Test Float. . . . .        | 1                                  |     |
| Test Suite: Floatrow . . . . .      | 1                                  |     |
| v0.15                               | Files: lwarp_formal.css added. . . | 1   |
| General: 2016/04/06 . . . . .       | 1                                  |     |
| Fix: steps counter . . . . .        | 804                                |     |
| Fixed & handling. . . . .           | 802                                |     |
| Test Suite: test_suite_formal.css   |                                    |     |
| file added. . . . .                 | 1                                  |     |
| v0.16                               | Test Suite: test_suite_formal.css  |     |
| General: 2016/04/11 . . . . .       | 1                                  |     |
| \titlingpage: Improved              |                                    |     |
| print-output spacing. . . . .       | 412                                |     |
| xfrac: Adjusted for the use of any  |                                    |     |
| font: . . . . .                     | 1231                               |     |
| Added XeLaTeX, LuaLaTeX             |                                    |     |
| support. . . . .                    | 203                                |     |
| Docs: Font and UTF-8 support.       | 101                                |     |
| Docs: Moved location of             |                                    |     |
| \usepackage{lwarp}. . . . .         | 103                                |     |
| Docs: Text not converting. . . .    | 194                                |     |
| Lwarp no longer selects             |                                    |     |
| fonts. . . . .                      | 101, 237                           |     |
| Removed package: suffix . . . . .   | 1                                  |     |
| Test Suite: Improved titlingpage.   | 412                                |     |
| Test Suite: Lwarp no longer         |                                    |     |
| selects fonts. . . . .              | 1                                  |     |
| Test Suite: Supports XeLaTeX,       |                                    |     |
| LuaLaTeX. . . . .                   | 1                                  |     |
| v0.17                               | Test Suite: Supports XeLaTeX,      |     |
| \LRW@htmlsectionfilename: Fix:      |                                    |     |
| Links when entire doc is one        |                                    |     |
| HTML page. . . . .                  | 339                                |     |
| General: 2016/04/14 . . . . .       | 1                                  |     |
| mdframed: Added. . . . .            | 934                                |     |
| Test Suite: Fix: Print-version      |                                    |     |
| front-matter page numbers. . . .    | 1                                  |     |
| Test Suite: Mdframed . . . . .      | 1                                  |     |
| v0.18                               | Test Suite: Mdframed . . . . .     | 1   |
| \LRW@myshorttoc: Reorganize         |                                    |     |
| \HomeHTMLFilename logic. . . .      | 515                                |     |
| \LRW@newhtmlfile: sideroc after     |                                    |     |
| title, improving responsive         |                                    |     |
| design. . . . .                     | 384                                |     |

|                                        |      |                                          |               |
|----------------------------------------|------|------------------------------------------|---------------|
| \LWR@requesttoc: Reorganize            |      | \minipagefullwidth: Added: No            |               |
| \HomeHTMLFilename logic. . . . .       | 406  | width tag for the next minipage          |               |
| \LWR@subhyperref: Improved HTML        |      | in HTML. . . . .                         | 586           |
| output linebreaks. . . . .             | 503  | \warpHTMLonly: Added. . . . .            | 235           |
| \LWR@subhyperrefclass: Improved        |      | \warpprintonly: Replaces                 |               |
| HTML output linebreaks. . . . .        | 504  | \rowprintedonly. . . . .                 | 235           |
| \LWR@subinlineimage: Suppress          |      | \xfracHTMLfontsize: Added. . . . .       | 1230          |
| extra space. . . . .                   | 505  | General: 2016/06/08 . . . . .            | 1             |
| \hspace: \hspace supported. . . . .    | 608  | css for table note item. . . . .         | 1163          |
| General: 2016/05/19 . . . . .          | 1    | MATHJAX support                          |               |
| graphics: Add: svg file extension. 836 |      | added. . . . .                           | 551, 558, 559 |
| graphics: Fix: \linewidth,             |      | multirow: Added optional args. . . . .   | 965           |
| \textwidth, \textheight                |      | xcolor: Supports colored \rule. 1222     |               |
| inside a minipage. . . . .             | 836  | Adapts to tikz version. . . . .          | 1166          |
| graphics: Improved HTML output         |      | Avoids MATHJAX. . . . .                  | 539           |
| linebreaks. . . . .                    | 836  | cleveref: Loaded                         |               |
| graphics: em, ex, %, px                |      | \AtEndPreamble. . . . .                  | 583           |
| dimensions preserved. . . . .          | 836  | Docs: Math options. . . . .              | 103           |
| File: lwarp.css: Improved roc          |      | Docs: Table: Cross-referencing           |               |
| outline display. . . . .               | 1    | data structures, updated. . . . .        | 493           |
| Files: lwarp.css and                   |      | File: lwarp.css:                         |               |
| lwarp_formal.css: Improved             |      | tnoteitemheader added. . . . .           | 1             |
| responsive design. . . . .             | 1    | File: lwarp_mathjax.txt added. . . . .   | 1             |
| Microtype disabled during HTML         |      | Introduction: MATHJAX support            |               |
| generation . . . . .                   | 238  | mentioned. . . . .                       | 64            |
| PDF Unicode input characters. . . . .  | 220  | Options: mathsvg and mathjax . . . . .   | 230           |
| Test Suite: Verse package . . . . .    | 1    | titles: null \pagestyle and              |               |
| Lateximage: pdfcrop: --hires           |      | \thispagestyle for HTML. . . . .         | 1167          |
| added. . . . .                         | 566  | v0.20                                    |               |
| Reorganize \HomeHTMLFilename           |      | \BlockClassSingle: Renamed from          |               |
| logic. . . . .                         | 566  | "LRW@htmldivclassline". . . . .          | 353           |
| Suppress extra space. . . . .          | 566  | \HTMLDescription: Added                  |               |
| verse: Supports verse, memoir          |      | \NewHTMLdescription.                     |               |
| packages. . . . .                      | 1206 | (Renamed in v0.30.) . . . . .            | 364           |
| minipage: Fix: \linewidth,             |      | \HTMLFilename: No longer escape          |               |
| \textwidth, \textheight                |      | underscores. . . . .                     | 338           |
| inside a minipage. . . . .             | 586  | \HomeHTMLFilename: No longer             |               |
| v0.19                                  |      | escape underscores. . . . .              | 338           |
| \HTMLFilename: Docs: Escape            |      | \InlineClass: Renamed from               |               |
| filename underscores. . . . .          | 338  | "inlineclass". . . . .                   | 354           |
| \HomeHTMLFilename: Docs: Escape        |      | \LWR@closeparagraph: \unskip             |               |
| filename underscores. . . . .          | 338  | extra spaces. . . . .                    | 358           |
| \LWR@LwarpStart: Enabled \ equal       |      | No break tags in the start/end of        |               |
| to \newline. . . . .                   | 403  | a tabular. . . . .                       | 358           |
| \LWR@doequation: MATHJAX               |      | \LWR@endofline: Fix: \ . . . . .         | 607           |
| support. . . . .                       | 554  | \LWR@filestart: Adds meta                |               |
| \LWR@doubledollar: MATHJAX             |      | description. . . . .                     | 400           |
| support. . . . .                       | 547  | \LWR@htmldivclass: Added                 |               |
| \LWR@filestart: lwarp_mathjax.txt      |      | optional style. . . . .                  | 352           |
| loaded. . . . .                        | 400  | \LWR@htmlElementclass: Added             |               |
| \LWR@minipagestartpars:                |      | optional style. . . . .                  | 352           |
| Suppresses paragraph tags              |      | \LWR@htmlsectionfilename:                |               |
| between minipages. . . . .             | 607  | HTMLFilename: removed                    |               |
| \LWR@subsingledollar: MATHJAX          |      | additional trailing '-', and may         |               |
| support. . . . .                       | 545  | be empty. . . . .                        | 339           |
| \LateximageFontSizeName: Add:          |      | Sections called "Index" or "index"       |               |
| User-adjustable                        |      | have an underscore prepended             |               |
| math/lateximage font size. . . . .     | 563  | to their filenames if no prefix. . . . . | 339           |
| \hspace: Fix: \hspace length           |      |                                          |               |
| computations. . . . .                  | 608  |                                          |               |

|                                                                                  |      |                                                                                          |      |
|----------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------|------|
| \LWR@hyperindexrefsubtwo: Print mode provided in case hyperref not used. . . . . | 530  | titletoc: Added. . . . .                                                                 | 1172 |
| \LWR@longtabledatacaptiontag: Fix: Pars in captions. . . . .                     | 477  | titling: Improved compatibility.                                                         | 1174 |
| \LWR@section: Combined higher-level sections together into files. . . . .        | 391  | tocloft: Added. . . . .                                                                  | 1182 |
| \LWR@setOSWindows: Auto-detects operating system. . . . .                        | 228  | wallpaper: Added. . . . .                                                                | 1211 |
| \LWR@subhtmlElementClass: Factored code. . . . .                                 | 351  | wrapfig: Added. . . . .                                                                  | 1213 |
| \SetHTMLFileNumber: Add: Control file numbers. . . . .                           | 338  | xetexko: Added. . . . .                                                                  | 1229 |
| \cpagerefFor: User-redefinable word for page references. . . .                   | 733  | Added @, <, > columns. . . . .                                                           | 433  |
| \dotfill: Inserts an ellipsis. . . .                                             | 606  | Added single-expansion data arrays. . . . .                                              | 333  |
| \hfill: Inserts a \quad. . . . .                                                 | 606  | Code factored into independent lwarp_html files. . . . .                                 | 624  |
| \hrulefill: Inserts a short rule. . .                                            | 606  | Docs: Examples for generating HTML file names. . . . .                                   | 114  |
| \hspace: Add: Supports HTML thin breakable space. . . . .                        | 608  | Docs: Improved index. . . . .                                                            | 1    |
| \pageref: Added. . . . .                                                         | 502  | Enhanced titling support. . . . .                                                        | 411  |
| \tracingLwarp: Added. . . . .                                                    | 251  | File: lwarp.css: Minor fixes for validation. . . . .                                     | 1    |
| General: 2017/02/09 . . . . .                                                    | 1    | File: lwarpmk used to compile print, HTML, indexes, and lateximages. . . . .             | 1    |
| afterpage: Added. . . . .                                                        | 636  | Fix: \linewidth in a floatrow. . .                                                       | 803  |
| alltt: Added. . . . .                                                            | 641  | Moved sidebar and example code to test suite. . . . .                                    | 1    |
| bookmark: Added. . . . .                                                         | 680  | Page geometry set to 6in wide with large margins. . . . .                                | 238  |
| caption and subcaption supported. . . . .                                        | 1    | Parallel versions of aux files for print/HTML. . . . .                                   | 1    |
| cleveref and referencing patches: Applied \AfterEndPreamble. . .                 | 732  | Removed reliance on make, grep, gawk. . . . .                                            | 1    |
| draftwatermark: Added. . . . .                                                   | 750  | Tabular: \unskip extra spaces. . .                                                       | 433  |
| eso-pic: Added. . . . .                                                          | 770  | Test Suite: HTML meta descriptions. . . . .                                              | 1    |
| everypage: Added. . . . .                                                        | 774  | verbatim: Added. . . . .                                                                 | 422  |
| extramarks: Added. . . . .                                                       | 775  | BlockClass: Added optional style. Renamed from "blockclass". . .                         | 353  |
| fancyhdr: Added. . . . .                                                         | 781  | LWR@nestspan: Fix: Minipages inside a span. . . . .                                      | 349  |
| float: Improved float caption type handling. . . . .                             | 797  | v0.21                                                                                    |      |
| graphics: Fix: Expands filename.                                                 | 836  | \LWR@LwarpStart: Changed lateximages to a .txt file. . .                                 | 403  |
| graphics: Fix: \linewidth in a floatrow. . . . .                                 | 836  | \LWR@filestart: Skip title if not given. . . . .                                         | 400  |
| hyperref: Additional user macros. . . . .                                        | 848  | \LWR@newhtmlfile: Skip title if not given. . . . .                                       | 384  |
| keyfloat: Added. . . . .                                                         | 873  | \marginpar: Fixed source listing. .                                                      | 371  |
| letterspace: User-interface emulated. . . . .                                    | 886  | \marginparBlock: Fixed source listing. . . . .                                           | 371  |
| listings: Added. . . . .                                                         | 896  | General: 2017/02/23 . . . . .                                                            | 1    |
| ltxcaption: Added. . . . .                                                       | 908  | fontenc: Added. . . . .                                                                  | 809  |
| lwarp-newproject: Added. . . . .                                                 | 262  | lwarpmk: Fix: <b>lwarpmk</b> again for WINDOWS. . . . .                                  | 313  |
| microtype: User-interface emulated. . . . .                                      | 950  | lwarpmk: Fix: <b>lwarpmk</b> <b>limages</b> for WINDOWS. . . . .                         | 313  |
| needspace: Added. . . . .                                                        | 976  | lwarpmk: Fix: <i>lwarpmk</i> uses lateximages text file instead of shell script. . . . . | 313  |
| nowidow: Added. . . . .                                                          | 991  | Add: Errors for misplaced packages. . . . .                                              | 203  |
| placeins: Added. . . . .                                                         | 1027 | Docs: Added internet class. . . .                                                        | 73   |
| ragged2e: Added. . . . .                                                         | 1035 | Docs: Added TeX2page, GladTeX.                                                           | 73   |
| setspace: Improved support. . .                                                  | 1060 |                                                                                          |      |
| sympytex: Added. . . . .                                                         | 1137 |                                                                                          |      |
| textpos: Added. . . . .                                                          | 1156 |                                                                                          |      |
| titles: Added. . . . .                                                           | 1167 |                                                                                          |      |
| titlesec: Added. . . . .                                                         | 1170 |                                                                                          |      |

|                                          |          |                                                                                                              |        |
|------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------|--------|
| Docs: Installing on WINDOWS. . . . .     | 79       | ellipsis: Added. . . . .                                                                                     | 755    |
| File: lwarp_tutorial.txt                 |          | emptypage: Added. . . . .                                                                                    | 756    |
| added. . . . .                           | 83       | framed: Added. . . . .                                                                                       | 816    |
| v0.22                                    |          | lips: Added. . . . .                                                                                         | 895    |
| \LWR@parsebangcolumn: Added              |          | mdframed: Help avoid                                                                                         |        |
| tabular ! column. . . . .                | 445      | hyphenation. . . . .                                                                                         | 935    |
| \LWR@parsetablecols: Unknown             |          | ntheorem: Added. . . . .                                                                                     | 992    |
| table column types become l.             |          | showidx: Added. . . . .                                                                                      | 1062   |
| Added tabular D, !, X columns. . . . .   | 454      | theorem: Added. . . . .                                                                                      | 1157   |
| \LWR@printmcoldata: Added                |          | Basic L <sup>A</sup> T <sub>E</sub> X theorems: improved                                                     |        |
| tabular D, !, and X columns. . . . .     | 472      | css. . . . .                                                                                                 | 423    |
| General: 2017/03/02 . . . . .            | 1        | Docs: Adds credits for patched                                                                               |        |
| abstract: Added. . . . .                 | 625      | code. . . . .                                                                                                | 1      |
| changepage: Added. . . . .               | 695      | Docs: Testing lwarp. . . . .                                                                                 | 190    |
| dcolumn: Added. . . . .                  | 744      | Fix: Allows XE <sup>L</sup> A <sup>T</sup> E <sub>X</sub> and Lua <sup>L</sup> A <sup>T</sup> E <sub>X</sub> |        |
| ftnright: Added. . . . .                 | 819      | to preload graphics and                                                                                      |        |
| geometry: Nullified commands. . . . .    | 824      | graphicx. . . . .                                                                                            | 209    |
| layout: Added. . . . .                   | 883      | v0.26                                                                                                        |        |
| lscap: Added. . . . .                    | 907      | General: 2017/03/31 . . . . .                                                                                | 1      |
| mcaption: Added. . . . .                 | 934      | lwarp.css: Improved responsive                                                                               |        |
| nameref: Added. . . . .                  | 972      | marginpar and marginblock. . . . .                                                                           | 269    |
| nextpage: Added. . . . .                 | 979      | cutwin: Added. . . . .                                                                                       | 743    |
| parskip: Added. . . . .                  | 1012     | endnotes: Added. . . . .                                                                                     | 757    |
| showkeys: Added. . . . .                 | 1062     | floatflt: Added. . . . .                                                                                     | 799    |
| sidecap: Added. . . . .                  | 1064     | footmisc: Added. . . . .                                                                                     | 810    |
| tabularx: Added. . . . .                 | 1139     | footnotehyper: Added. . . . .                                                                                | 813    |
| varioref: Supported. . . . .             | 129      | footnote: Added. . . . .                                                                                     | 811    |
| verse: Added. . . . .                    | 1205     | marginfix: Added. . . . .                                                                                    | 919    |
| v0.23                                    |          | marginnote: Added. . . . .                                                                                   | 920    |
| \LWR@parsetablecols: Fix for vert        |          | mparhack: Added. . . . .                                                                                     | 959    |
| bar column type. . . . .                 | 454      | pagenote: Supported as-is. . . . .                                                                           | 1006   |
| \LWR@printmcoldata: Fix for vert         |          | sidenotes: Added. . . . .                                                                                    | 1064   |
| bar column type. . . . .                 | 472      | Docs: Improved MiK <sup>T</sup> E <sub>X</sub> install                                                       |        |
| General: 2017/03/02 . . . . .            | 1        | instructions. . . . .                                                                                        | 78, 79 |
| v0.24                                    |          | Dollar span avoided in a                                                                                     |        |
| \LWR@htmlfileref: Fix: Index links       |          | lateximage. . . . .                                                                                          | 539    |
| while \tracinglwarp. . . . .             | 496      | Footnotes now are L <sup>A</sup> T <sub>E</sub> X boxes                                                      |        |
| \hspace: Add: \hspace \fill              |          | instead of pagenotes. . . . .                                                                                | 365    |
| converts to 2em . . . . .                | 608      | lateximage: Labels track page                                                                                |        |
| \hypertocfloat: List of floats           |          | numbers of lateximages. . . . .                                                                              | 566    |
| responds to lofdepth,                    |          | Print mode now uses a minipage                                                                               |        |
| lotdepth. . . . .                        | 522      | of \linewidth. . . . .                                                                                       | 566    |
| General: 2017/03/15 . . . . .            | 1        | picture: Fix for \makebox in                                                                                 |        |
| floatrow: Support for subfig. . . . .    | 800      | picture. . . . .                                                                                             | 584    |
| subfig: Added. . . . .                   | 1129     | v0.27                                                                                                        |        |
| tikz: For tikz v3.0.0 or later,          |          | \LWR@@footnotetext: Fix for table                                                                            |        |
| auto-loads tikz babel library if         |          | footnote par tags. . . . .                                                                                   | 367    |
| necessary. . . . .                       | 1166     | General: 2017/04/04 . . . . .                                                                                | 1      |
| Docs: Filename underscore. . . . .       | 103, 122 | lettrine: Added. . . . .                                                                                     | 887    |
| Fix for inline images. . . . .           | 1166     | microtype: Fix with Xe <sup>L</sup> A <sup>T</sup> E <sub>X</sub> ,                                          |        |
| No longer preloads subcaption;           |          | Lua <sup>L</sup> A <sup>T</sup> E <sub>X</sub> . . . . .                                                     | 950    |
| conflicted with subfig. . . . .          | 242      | soul: Added. . . . .                                                                                         | 1109   |
| picture: Fix for inline images. . . . .  | 584      | ulem: Added. . . . .                                                                                         | 1195   |
| v0.25                                    |          | Docs: Installing utilities for                                                                               |        |
| \LWR@loadnever: Added the ability        |          | MACOS. . . . .                                                                                               | 81     |
| to prevent conflicting packages. . . . . | 205      | Docs: Limitations of saveboxes. . . . .                                                                      | 123    |
| \addcontentsline: Handles                |          | Page geometry modified to                                                                                    |        |
| theorems. . . . .                        | 514      | reduce line overflow. . . . .                                                                                | 238    |
| General: 2016/03/22 . . . . .            | 1        | v0.28                                                                                                        |        |
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| Updated to MATHJAX v3                |      | Handles a range, for <i>xindex</i> . . .   | 528  |
| current. . . . .                     | 309  | \LWR@forcenewautoidanchor:                 |      |
| v0.87                                |      | Inline handling. . . . .                   | 510  |
| \LWR@checkloadfilename:              |      | \LWR@hyperindexrefsbtwo: Adds              |      |
| Prevented csvtools. . . . .          | 244  | support for a range, for <i>xindex</i> . . | 530  |
| \bibliography: Reverted to           |      | \LWR@indexnameref: Added                   |      |
| original. . . . .                    | 531  | IndexRef option, refactored. . .           | 528  |
| \scshape: Added FixSmallCaps to      |      | \LWR@maybe@orignewpage: Added.             | 225  |
| remove \LWR@print@scshape            |      | \LWR@printchaptername:                     |      |
| for <i>erewhon</i> , et. al. . . . . | 601  | Conditionally print                        |      |
| \sishape: Added FixSmallCaps to      |      | \chaptername. . . . .                      | 391  |
| remove \LWR@print@scshape            |      | \LWR@restoreMathJaxformatting:             |      |
| for <i>erewhon</i> , et. al. . . . . | 602  | Added. . . . .                             | 532  |
| General: 2020/06/03 . . . . .        | 1    | \LWR@restoreorigformatting:                |      |
| cancel: Now uses MATHJAX v3          |      | Support for MATHJAX. . . . .               | 533  |
| extension. . . . .                   | 687  | \LWR@section: Conditionally print          |      |
| citeref: Added. . . . .              | 730  | \chaptername. . . . .                      | 395  |
| drftcite: Added. . . . .             | 750  | \LWR@xindex@modifyentry: Added             |      |
| embrac: Neutralized kerning. . .     | 755  | support for <i>xindex</i> . . . . .        | 525  |
| ifpdf, ifptex: Restored to work on   |      | \hrulefill: Full line <div> if not         |      |
| TL2019 and earlier. . . . .          | 203  | started paragraph. . . . .                 | 606  |
| jurabib: Added. . . . .              | 869  | \hyperindexformat: Added. . . . .          | 531  |
| mathtools: Improved                  |      | \hyperindexref: Rewritten to parse         |      |
| \underbracket, \overbracket. . .     | 929  | commas and ranges. . . . .                 | 529  |
| mathtools: Updated starred           |      | \hyperpage: Added. . . . .                 | 531  |
| macros. . . . .                      | 929  | \nohyperpage: Added. . . . .               | 531  |
| mhchem: Now uses MATHJAX v3          |      | General: 2020/07/19 . . . . .              | 1    |
| extension. . . . .                   | 947  | lwarp.css: Added indexheading              |      |
| multibib: Added. . . . .             | 960  | for gindex. . . . .                        | 269  |
| nccmath: Updated starred,            |      | lwarp.css: Added tcolorbox,                |      |
| improved \underref. . . . .          | 975  | thmbox. . . . .                            | 269  |
| physics: Now uses MATHJAX v3         |      | amsmath: Added \dotso text                 |      |
| extension. . . . .                   | 1023 | mode. . . . .                              | 642  |
| splitbib: Added. . . . .             | 1111 | amsthm: Requires amsmath. . .              | 646  |
| statex2: \pBin exponent. . . . .     | 1117 | caption, scrextend: Fixed                  |      |
| Added FixSmallCaps to remove         |      | \caption*. . . . .                         | 690  |
| \LWR@print@scshape for               |      | cleveref, varioref: Fix for starred        |      |
| <i>erewhon</i> , et. al. . . . .     | 595  | macros. . . . .                            | 734  |
| Docs: Updated docs to compile        |      | fancyref: Now uses varioref                |      |
| lwarp documentation. . . . .         | 188  | which ignores page-related                 |      |
| File: lwarp_mathjax.txt: Now         |      | output. . . . .                            | 783  |
| provides \ifstar,                    |      | fbox: Added. . . . .                       | 790  |
| \ifnextchar. . . . .                 | 309  | gindex: Added. . . . .                     | 826  |
| Prevented csvtools. . . . .          | 207  | hhtensor: Added. . . . .                   | 847  |
| v0.88                                |      | mleftright: Added. . . . .                 | 956  |
| \@wrindex: Added support for         |      | pdfreder: Restored for                     |      |
| <i>xindex</i> . . . . .              | 525  | xfakebold. . . . .                         | 1019 |
| \IndexRangeSeparator: Added. . .     | 524  | shadethm: Added. . . . .                   | 1061 |
| \LWR@HTML@ref: Added MATHJAX. .      | 502  | tcolorbox: Added. . . . .                  | 1145 |
| Fixed: Starred \ref. . . . .         | 500  | termcal: Added. . . . .                    | 1151 |
| \LWR@LetLtxMacros: Added. . . . .    | 226  | thm-listof: Added. . . . .                 | 1161 |
| \LWR@absorbstar: Added. . . . .      | 226  | thm-restore: Added. . . . .                | 1161 |
| \LWR@checkloadfilename:              |      | thmbox: Added. . . . .                     | 1162 |
| Prevented shadethm. . . . .          | 244  | ushort: Added. . . . .                     | 1204 |
| \LWR@doindexentry: Adapts to         |      | varioref: Removed page-related             |      |
| gindex. . . . .                      | 529  | text. . . . .                              | 1205 |

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| xfakebold: Now works with<br>pdfrender. . . . .                                         | 1230 | mathptmx: Added. . . . .                                                                       | 926      |
| Added \vdots. . . . .                                                                   | 605  | mismatch: Improved math<br>operators. . . . .                                                  | 953      |
| Added LWR@texboxdepth. . . . .                                                          | 225  | newpxmath: Added. . . . .                                                                      | 976      |
| Added IndexRef option. . . . .                                                          | 232  | newtxmath: Added. . . . .                                                                      | 977      |
| Added xindex option. . . . .                                                            | 232  | newtxsf: Added. . . . .                                                                        | 978      |
| Option xindexConfig added. . . . .                                                      | 231  | pxfonts: Added. . . . .                                                                        | 1033     |
| Prevented shadethm. . . . .                                                             | 207  | shuffle: Added. . . . .                                                                        | 1063     |
| v0.883                                                                                  |      | siunitx: Fix: MATHJAX for \tothe,<br>\raiseto. . . . .                                         | 1094     |
| General: nfssect-cfr: Fixed                                                             |      | siunitx: Unicode for endash. . . . .                                                           | 1099     |
| \textsw. . . . .                                                                        | 982  | statmath: Fixed abcbm, uses<br>lwarp-common-mathjax-letters.<br>. . . . .                      | 1126     |
| v0.89                                                                                   |      | thm-listof: Updated to v0.72. . . . .                                                          | 1161     |
| \@opargbegintheorem: Allow<br>preload of amsmath, amsthm,<br>centernot. . . . .         | 424  | thm-restate: Updated to v0.72,<br>no changes needed. . . . .                                   | 1161     |
| \LWR@HTMLsanitizeexpanded: Fix:<br>Nested MATHJAX environments. . . . .                 | 380  | thmtools: Added. . . . .                                                                       | 1163     |
| \LWR@LwarpStart: MathJax:<br>Improved info message. . . . .                             | 405  | txfonts: Added. . . . .                                                                        | 1193     |
| \LWR@addmathjax: TT font for<br>MATHJAX. . . . .                                        | 553  | upgreek: Added. . . . .                                                                        | 1203     |
| \LWR@amsmathbodynumbered:<br>\textendash for number range. . . . .                      | 565  | <i>lwarpmk</i> : cclean also removes<br>*.bbl . . . . .                                        | 313      |
| \LWR@customizeMathJax: Print<br>MATHJAX customizations with<br>typewriter font. . . . . | 383  | Allow preload of amsmath,<br>amsthm, centernot. . . . .                                        | 209, 617 |
| \LWR@doubledollar: TT font for<br>MATHJAX. . . . .                                      | 547  | AMS environments: Fix: <ALT><br>text env name. . . . .                                         | 643      |
| \LWR@patcherror: Improved<br>message. . . . .                                           | 223  | Foreground/background hooks:<br>Adapt to L <sup>A</sup> T <sub>E</sub> X core changes. . . . . | 408      |
| \LWR@singledollar: TT font for<br>MATHJAX. . . . .                                      | 548  | MATHJAX: Added \protect, and<br>\mathcode and related. . . . .                                 | 383      |
| \LWR@subsingledollar: TT font for<br>MATHJAX. . . . .                                   | 546  | Removed \let of \[, \]. . . . .                                                                | 550      |
| \endocument: Adapt to L <sup>A</sup> T <sub>E</sub> X core<br>changes. . . . .          | 407  | eqnarray: \textendash for number<br>range. . . . .                                             | 560      |
| General: 2020/09/03 . . . . .                                                           | 1    | v0.891                                                                                         |          |
| accents: Added. . . . .                                                                 | 628  | \LWR@atbeginverbatim: Fix for<br>verbatim, alltt with lists . . . . .                          | 421      |
| atbegshi: Adapt to L <sup>A</sup> T <sub>E</sub> Xkernel<br>changes. . . . .            | 656  | \LWR@checkloadfilename:<br>Prevented libgreek. . . . .                                         | 244      |
| caption3: Split from<br>lwarp-caption. . . . .                                          | 690  | \LWR@excludecomment: Error if<br>nested comment. . . . .                                       | 236      |
| caption: Adapt to v3.5. . . . .                                                         | 688  | \LWR@subHTMLsanitize:<br>Neutralized single quotes. . . . .                                    | 379      |
| centernot: Improved. . . . .                                                            | 694  | \verb: \verb as \texttt. . . . .                                                               | 420      |
| econometrics: Uses<br>lwarp-common-mathjax-letters.<br>. . . . .                        | 752  | General: 2020/09/22 . . . . .                                                                  | 1        |
| everyshi: Adapt to L <sup>A</sup> T <sub>E</sub> Xkernel<br>changes. . . . .            | 774  | biblatex: Fixed: Back page<br>references. . . . .                                              | 674      |
| everyshi: Included in L <sup>A</sup> T <sub>E</sub> X core. . . . .                     | 616  | bussproofs: Added. . . . .                                                                     | 686      |
| hepunits: Added. . . . .                                                                | 845  | caption: Improved integration. . . . .                                                         | 689      |
| lwarp-common-mathjax-letters:<br>Added. . . . .                                         | 1275 | cmbright: Added. . . . .                                                                       | 735      |
| lwarp-common-mathjax-newpxmath:<br>Added. . . . .                                       | 1281 | colonequals: Uses Unicode and<br>\mathrel. . . . .                                             | 736      |
| lwarp-common-mathjax-overlaysymbols:<br>Added. . . . .                                  | 1291 | fancyvrb: Fix: BVerbatim with<br>labels. . . . .                                               | 786      |
| mathalpha: Added. . . . .                                                               | 921  | fourier: Added. . . . .                                                                        | 815      |
| mathdesign: Added. . . . .                                                              | 923  | hyperref: Added backref,<br>pagebackref. . . . .                                               | 848      |
| mathpazo: Added. . . . .                                                                | 925  | hyperref: Fixed \texorpdfstring<br>with babel-french. . . . .                                  | 856      |
|                                                                                         |      | kpfonts-otf: Added. . . . .                                                                    | 881      |
|                                                                                         |      | kpfonts: Added. . . . .                                                                        | 880      |

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| libertinustlmath: Added. . . . .                                                   | 887              | \fcolorbox: xcolor: Fixed second optional arg. . . . .                                     | 1224       |
| listings: Fix for MATHJAX: Moved \LWR@forcenewpage to start. . . . .               | 897, 899         | \fcolorboxBlock: xcolor: Fixed second optional arg. . . . .                                | 1224       |
| listings: Improved HTML sanitizing. . . . .                                        | 897              | General: 2020/10/07 . . . . .                                                              | 1          |
| listings: Improved spacing around ampersand. . . . .                               | 897              | fancyvrb: Adapted to fvextra. . . . .                                                      | 790        |
| lwrap-common-mathjax-newpctxmath: Expanded for kpfnts. . . . .                     | 1282–1284, 1288  | fancyvrb: Provided \FV@FrameFillLine. . . . .                                              | 788        |
| lwrap-common-mathjax-newpctxmath: Factored non-UNICODE. . . . .                    | 1283, 1284, 1286 | fourier: Added \left/\right support in lwrap_mathjax.txt. . . . .                          | 815        |
| lwrap-common-mathjax-newpctxmath: Reverse factored out Greek, non-UNICODE. . . . . | 1281             | fvextra: Added. . . . .                                                                    | 820        |
| lwrap-common-mathjax-nonunicode: Added. . . . .                                    | 1288             | graphics: Fix path from kernel change. . . . .                                             | 837        |
| mathdesign: Added \mathinner, \mathbin. . . . .                                    | 924              | libertinustlmath: Added \left/\right support in lwrap_mathjax.txt. . . . .                 | 888        |
| mathdesign: Added \mathop. . . . .                                                 | 924              | lineno: Fix for internallinenums*. . . . .                                                 | 893        |
| mathdesign: Added \mathrel, \mathord. . . . .                                      | 924              | lwrap-common-mathjax-newpctxmath: Added \left/\right support in lwrap_mathjax.txt. . . . . | 1281, 1286 |
| mathdesign: Honors greekuppercase, greeklowercase. . . . .                         | 923              | minted: Added. . . . .                                                                     | 952        |
| mathdots: Added more macros, \mathinner. . . . .                                   | 924              | unicode-math: Added MATHJAX support for \left/\right. . . . .                              | 1200       |
| mathfixs: Added \mathinner. . . . .                                                | 925              | File: lwrap_mathjax.txt: Added \left/\right delimiters. . . . .                            | 309        |
| mathpazo: Honors slantedGreek. . . . .                                             | 925              | fcolorminipage: xcolor: Fixed second optional arg. . . . .                                 | 1225       |
| mathptmx: Honors slantedGreek. . . . .                                             | 926              | v0.893                                                                                     |            |
| mathtools: Improved \underbracket, \overbracket. . . . .                           | 929              | \LWR@checkloadfilename: Allowed picinpar. . . . .                                          | 244        |
| multiobjective: Improved. . . . .                                                  | 963              | \LWR@expandableformatted: Improved error handling. . . . .                                 | 254        |
| newpctxmath: Honors uprightGreek, slantedGreek. . . . .                            | 976, 978         | \LWR@expandableformattedenv: Improved error handling. . . . .                              | 255        |
| newtxmath: Honors uprightGreek, slantedGreek. . . . .                              | 977              | \LWR@formatted: Improved error handling. . . . .                                           | 254        |
| nicefrac: Added \mathinner, improved fraction. . . . .                             | 985              | \LWR@formatted@checkendname: Added. . . . .                                                | 254        |
| scalerel: Added. . . . .                                                           | 1047             | \LWR@formatted@checkname: Added. . . . .                                                   | 253        |
| shuffle: Added \mathbin, improved bar. . . . .                                     | 1064             | \LWR@formattedenv: Improved error handling. . . . .                                        | 255        |
| txgreek: Added. . . . .                                                            | 1194             | \LWR@htmlcomment: Disabled in math mode. . . . .                                           | 351        |
| unicode-math: Added sans-style. . . . .                                            | 1199             | \LWR@subHTMLsanitize: Optionally neutralized single quotes. . . . .                        | 379        |
| units: Added \mathinner, improved fraction. . . . .                                | 1202             | General: 2020/11/26 . . . . .                                                              | 1          |
| File: lwrap_mathjax.txt: Renamed tagformat extension. . . . .                      | 309              | MATHJAX: Added \mathnormal. . . . .                                                        | 382        |
| Prevented libgreek. . . . .                                                        | 207              | lwrap.css: Added keystroke. . . . .                                                        | 269        |
| BVerbatim: fancyvrb: Fix: BVerbatim with labels. . . . .                           | 790              | braket: Now uses MATHJAX extension. . . . .                                                | 684        |
| v0.892                                                                             |                  | caption3: Updated date to v2.2e. . . . .                                                   | 690        |
| \LWR@subhtmlclass: Ignored empty class. . . . .                                    | 351              | caption: Updated date to v3.5g. . . . .                                                    | 688        |
|                                                                                    |                  | epstopdf-base: Updated date to v2.11. . . . .                                              | 767        |
|                                                                                    |                  | epstopdf: Updated date to v2.11. . . . .                                                   | 767        |
|                                                                                    |                  | esvect: Added. . . . .                                                                     | 771        |
|                                                                                    |                  | fixmath: Added. . . . .                                                                    | 794        |

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| graphics: Updated date to v1.4c.            | 829      | \LWR@hook@processingtags:        |          |
| graphicx: Updated date to v1.2b.            | 841      | Added.                           | 346      |
| keystroke: Added.                           | 878      | \LWR@label@subcreatatag:         |          |
| lwarp-common-mathjax-letters:               |          | Improved HTML quotes.            | 496      |
| Added \varbeta.                             | 1275     | \LWR@mathjaxwarn: Added MATHJAX  |          |
| mathastext: Added.                          | 921      | warnings for aligned-overset,    |          |
| mathspec: Added.                            | 926      | autoaligne, boldtensors,         |          |
| menukeys: Added.                            | 945      | libertinustlmath, tensind.       | 622      |
| menukeys: Updated to v1.6.1.                | 945      | Improved MATHJAX warning for     |          |
| picipar: Added.                             | 1025     | unicode-math.                    | 622      |
| plimsoll: Added.                            | 1029     | \LWR@maybenewtablerow: Improved  |          |
| pstricks: Fixed pspicture*.                 | 1032     | HTML quotes.                     | 458, 459 |
| repltext: Added.                            | 1042     | \LWR@printatbang: Improved HTML  |          |
| schemata: Added <alt> text.                 | 1047     | quotes.                          | 459      |
| selectp: Added.                             | 1057     | \LWR@printopenlist: Improved     |          |
| seqsplit: Added.                            | 1059     | HTML quotes.                     | 425      |
| simplebnf: Added.                           | 1066     | \LWR@startref: Improved HTML     |          |
| statistics: Added.                          | 1121     | quotes.                          | 499, 500 |
| struktex: Removed package                   |          | \LWR@subaddtabularcellcolor:     |          |
| date.                                       | 1128     | Improved HTML quotes.            | 469      |
| svg: Updated date to v2.02j.                | 1136     | \LWR@subhyperref: Improved HTML  |          |
| swfigure: Added.                            | 1137     | quotes.                          | 503      |
| tikz: Fixed font macros.                    | 1166     | \LWR@subhyperrefclass: Improved  |          |
| tocloft: Fix:                               |          | HTML quotes.                     | 504      |
| \cftpagenumbersoff,                         |          | \LWR@subinlineimage: Improved    |          |
| \cftpagenumberson.                          | 1185     | HTML quotes.                     | 505      |
| Allowed picipar.                            | 207      | \LWR@tabledatasinglecolumnntag:  |          |
| v0.894                                      |          | Improved HTML quotes.            | 461      |
| \LWR@forceSVGmessage: Improved              |          | \LWR@tdaddstyle: Improved HTML   |          |
| MATHJAX warnings.                           | 622      | quotes.                          | 464      |
| \LWR@mathjaxwarn: Improved                  |          | \LWR@tdendstyles: Improved HTML  |          |
| MATHJAX warnings.                           | 622      | quotes.                          | 464      |
| General: 2020/12/24                         | 1        | \hspace: Improved HTML quotes.   | 608      |
| MATHJAX: Accept starred                     |          | \rotatebox: Improved HTML        |          |
| \hspace.                                    | 382      | quotes.                          | 839      |
| MATHJAX: Added \arabic,                     |          | \rule: Improved HTML quotes.     | 611      |
| \number, \noalign.                          | 382      | \scalebox: Improved HTML quotes. | 840      |
| lwarp.css: T <sub>E</sub> X logos no longer |          | \verb: Improved HTML quotes.     | 420      |
| below baseline.                             | 269      | General: 2021/02/18              | 1        |
| booktabs: MATHJAX: Absorb                   |          | acro: Updated to v3.5.           | 630      |
| \cmidrule trim arg.                         | 682      | amscdx: Added.                   | 641      |
| colortbl: Added MATHJAX                     |          | amsmath: Added \Hat, etc..       | 645      |
| emulation.                                  | 738      | changes: Updated to v4.0.1.      | 696      |
| nicematrix: Added.                          | 986      | epsfig: Supports lateximage.     | 766      |
| rmathbr: Updated to v1.1.                   | 1043     | epsf: Added.                     | 766      |
| v0.895                                      |          | fancyhdr: Updated to v4.0.       | 781      |
| \LWR@addlinktitle: Improved                 |          | imprnatypo: Added.               | 865      |
| HTML quotes.                                | 499      | isomath: Added.                  | 867      |
| \LWR@checkloadfilename: kpfons              |          | isotope: Added.                  | 867      |
| load before lwarp.                          | 244      | libertinustlmath: MATHJAX: Fixed |          |
| Allowed epsf.                               | 244      | for Greek, ignoring sans.        | 888      |
| \LWR@domulticolumn: Improved                |          | lpic: Added.                     | 907      |
| HTML quotes.                                | 475, 476 | luavlna: Added.                  | 914      |
| \LWR@floatbegin: Improved HTML              |          | mattens: Added.                  | 931      |
| quotes.                                     | 508      | maybemath: Added.                | 933      |
| \LWR@forceSVGmessage: Improved              |          | mdwmath: Added.                  | 942      |
| MATHJAX warning.                            | 622      | multirow: Allow \par.            | 966      |
| \LWR@forcenewautoidanchor:                  |          | multirow: Improved HTML          |          |
| Improved HTML quotes.                       | 510      | quotes.                          | 965      |
|                                             |          | pinlabel: Added.                 | 1027     |



|                                                                                                                |      |                                                                      |          |
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| rlpsf: Added. . . . .                                                                                          | 1043 | \LWR@htmlspanclass: Added ARIA                                       |          |
| rotating: Supports lateximage. . . . .                                                                         | 1044 | role. . . . .                                                        | 350      |
| siunitx, MATHJAX: Scientific notation. . . . .                                                                 | 1097 | \LWR@lateximage@oneimage: Added                                      |          |
| siunitx, MATHJAX: \num sci notation, multiples, +-, decimals, comma. . . . .                                   | 1095 | ARIA role. . . . .                                                   | 565      |
| siunitx: Fix: MATHJAX for \ang. . . . .                                                                        | 1095 | \LWR@lateximage@oneimageb: Added ARIA role. . . . .                  | 565      |
| siunitx: MATHJAX: \SI prefix parsing. . . . .                                                                  | 1098 | \LWR@new@label: Revert to a simple \newcommand*. . . . .             | 498      |
| skmath: Added. . . . .                                                                                         | 1103 | \LWR@newautopagelabel: Fix: Refs if page changed. . . . .            | 373      |
| tensor: Added MATHJAX. . . . .                                                                                 | 1150 | \LWR@newhtmlfile: Added <main>. . . . .                              | 385, 387 |
| tikz-imagelabels: Added. . . . .                                                                               | 1167 | \LWR@null@newautopagelabel: Fix: Refs in footnotes. . . . .          | 373      |
| xevlna: Added. . . . .                                                                                         | 1229 | \LWR@nullfonts: Added ARIA role. . . . .                             | 536      |
| Allowed epsf. . . . .                                                                                          | 207  | Added groups. . . . .                                                | 536      |
| File: lwrap_mathjax.txt: Added \ifblank, \ifstrequal macros. . . . .                                           | 309  | \LWR@popclose: Stack 19 deep. . . . .                                | 333      |
| Fixed libertinus-otf \textquotedbl kern. . . . .                                                               | 259  | \LWR@printpendingmpfootnotes: Added ARIA role. . . . .               | 370      |
| Improved HTML quotes. 257, 346, 640, 786, 835, 836, 843, 853, 854, 899, 936, 996                               |      | \LWR@pushclose: Error if stack overflow. . . . .                     | 332      |
| Use kpfonts-otf if LuaL <sup>A</sup> T <sub>E</sub> X, X <sub>Y</sub> L <sup>A</sup> T <sub>E</sub> X. . . . . | 222  | Stack 19 deep. . . . .                                               | 332      |
| lateximage: Improved HTML quotes. . . . .                                                                      | 568  | \LWR@refwithsection: Added. . . . .                                  | 501      |
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| <code>LWR@doingapar</code> (boolean)                  | 356   | <code>\LWR@getmynexttoken</code>                  | 8756  |
| <code>LWR@doingcmidrule</code> (boolean)              | 435   | <code>LWR@glrbox</code> (environment)             | 1004  |
| <code>LWR@doingparhooks</code> (boolean)              | 356   | <code>\LWR@gsavebox</code>                        | 990   |
| <code>LWR@doingstartpars</code> (boolean)             | 356   | <code>LWR@hdashedlines</code> (counter)           | 435   |
| <code>LWR@doingtbrule</code> (boolean)                | 435   | <code>\LWR@heavyrulewidth</code> (length)         | 462   |
| <code>\LWR@domulticolumn</code>                       | 9857  | <code>\LWR@hidelatexequation</code>               | 12137 |
| <code>\LWR@doubledollar</code>                        | 11938 | <code>LWR@hlines</code> (counter)                 | 435   |
| <code>LWR@dynamicmath</code> (boolean)                | 336   | <code>\LWR@hook@processingtags</code>             | 6260  |
| <code>\LWR@earlyclassloadnever</code>                 | 104   | <code>\LWR@href</code>                            | 10681 |
| <code>\LWR@earlyloadnever</code>                      | 99    | <code>\LWR@HTML@caption@begin</code>              | 10898 |
| <code>LWR@emptyatbang</code> (boolean)                | 436   | <code>\LWR@HTML@caption@end</code>                | 10909 |
| <code>\LWR@endfloatalignment</code>                   | 10854 | <code>\LWR@HTML@ref</code>                        | 10571 |
| <code>\LWR@endhideamsmath</code>                      | 12314 | <code>\LWR@htmlblockcomment</code>                | 6444  |
| <code>\LWR@endofline</code>                           | 13612 | <code>\LWR@htmlblocktag</code>                    | 6446  |
| <code>\LWR@ensuredoingapar</code>                     | 6628  | <code>\LWR@HTMLcline</code>                       | 10216 |
| <code>LWR@equationother</code> (environment)          | 12074 | <code>\LWR@htmlclosecomment</code>                | 6415  |
| <code>\LWR@equationtag</code>                         | 12414 | <code>\LWR@htmlcomment</code>                     | 6432  |
| <code>\LWR@excludacomment</code>                      | 1250  | <code>\LWR@htmldivclass</code>                    | 6487  |
|                                                       |       | <code>\LWR@htmldivclassend</code>                 | 6492  |
|                                                       |       | <code>\LWR@htmlmlelement</code>                   | 6503  |

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| <code>\LWR@html elementclass</code> . . . . .           | 6471  | <code>\LWR@lightrulewidth (length)</code> . . . . .       | 462         |
| <code>\LWR@html elementclassend</code> . . . . .        | 6479  | <code>\LWR@linkcatcodes</code> . . . . .                  | 10640       |
| <code>\LWR@html elementclassline</code> . . . . .       | 6495  | <code>\LWR@linkmediacatcodes</code> . . . . .             | 10648       |
| <code>\LWR@html elementend</code> . . . . .             | 6506  | <code>LWR@Lpage (counter)</code> . . . . .                | 563         |
| <code>LWR@html filenumber (counter)</code> . . . . .    | 339   | <code>\LWR@listitem</code> . . . . .                      | 8597        |
| <code>\LWR@html fileref</code> . . . . .                | 10432 | <code>\LWR@listof</code> . . . . .                        | 11070       |
| <code>\LWR@HTMLhline</code> . . . . .                   | 10197 | <code>\LWR@loadafter</code> . . . . .                     | 21          |
| <code>\LWR@HTMLLatexCmd</code> . . . . .                | 2123  | <code>\LWR@loadbefore</code> . . . . .                    | 56          |
| <code>\LWR@html multicolumn</code> . . . . .            | 9925  | <code>\LWR@loadnever</code> . . . . .                     | 73          |
| <code>\LWR@html opencomment</code> . . . . .            | 6415  | <code>\LWR@longtabledatacaptiontag</code> . . . . .       | 9934        |
| <code>\LWR@html refsectionfilename</code> . . . . .     | 6093  | <code>\LWR@lookforpackagename</code> . . . . .            | 1499        |
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| <code>\LWR@HTMLsanitizeexpanded</code> . . . . .        | 7214  | <code>\LWR@LwarpEnd</code> . . . . .                      | 8015, 13879 |
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| <code>\LWR@html tagc</code> . . . . .                   | 6320  | <code>LWR@mathmacro (boolean)</code> . . . . .            | 335         |
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| <code>\LWR@hyperindexref@comma</code> . . . . .         | 11398 | <code>\LWR@maybe@orignewpage</code> . . . . .             | 983         |
| <code>\LWR@hyperindexref@range</code> . . . . .         | 11410 | <code>\LWR@maybenewtableterow</code> . . . . .            | 9301        |
| <code>\LWR@hyperindexrefnullified</code> . . . . .      | 11379 | <code>\LWR@maybeprintpendingfootnotes</code> . . . . .    | 6919        |
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| <code>\LWR@hyperindexrefsubtwo</code> . . . . .         | 11420 | <code>LWR@midrulecounter (counter)</code> . . . . .       | 438         |
| <code>LWR@in@multirow@par (boolean)</code> . . . . .    | 356   | <code>LWR@midrules</code> . . . . .                       | 462         |
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| <code>\LWR@indexitem</code> . . . . .                   | 11205 | <code>\LWR@minipagestartpars</code> . . . . .             | 13619       |
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| <code>\LWR@indexnameref@anonref</code> . . . . .        | 11274 | <code>LWR@minipagethispar (boolean)</code> . . . . .      | 586         |
| <code>\LWR@indexnameref@cref</code> . . . . .           | 11300 | <code>\LWR@minipagewidth (length)</code> . . . . .        | 585         |
| <code>\LWR@indexnameref@crefnameref</code> . . . . .    | 11317 | <code>\LWR@modifycolumnmtype</code> . . . . .             | 9149        |
| <code>\LWR@indexnameref@ref</code> . . . . .            | 11279 | <code>LWR@mpfootnote@store (counter)</code> . . . . .     | 586         |
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| <code>\LWR@indexsubsubitem</code> . . . . .             | 11213 | <code>\LWR@myshorttoc</code> . . . . .                    | 10978       |
| <code>LWR@indisplaymathimage (boolean)</code> . . . . . | 538   | <code>\LWR@nameref</code> . . . . .                       | 10423       |
| <code>\LWR@infoprocessingmathjax</code> . . . . .       | 7271  | <code>LWR@nestspan (environment)</code> . . . . .         | 6346        |
| <code>LWR@insidemathcomment (boolean)</code> . . . . .  | 538   | <code>\LWR@new@label</code> . . . . .                     | 10508       |
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| <code>\LWR@lateximagesfile</code> . . . . .             | 1646  | <code>\LWR@nulllistfills</code> . . . . .                 | 8606        |
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| <code>\LWR@parseatcolumn</code>                  | 8961  | <code>\LWR@sanitized</code>                    | 1151  |
| <code>\LWR@parsebangcolumn</code>                | 8991  | <code>\LWR@secondoffive</code>                 | 973   |
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| <code>\LWR@parsedrequirepackagenames</code>      | 1466  | <code>\LWR@setexparray</code>                  | 5933  |
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| <code>\LWR@printchaptername</code>               | 7535  | <code>LWR@spandepth (counter)</code>           | 356   |
| <code>\LWR@printcloselist</code>                 | 8504  | <code>\LWR@spanwarnformat</code>               | 6330  |
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| <code>\LWR@printmccoltype@colon</code>           | 9758  | <code>\LWR@startpars</code>                    | 6714  |
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| <code>\LWR@printopenlist</code>                  | 8505  | <code>\LWR@subaddcmidruletrim</code>           | 9542  |
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| <code>\LWR@printpercentlength</code>             | 935   | <code>\LWR@subcmidrule</code>                  | 9493  |
| <code>\LWR@printheadtitle</code>                 | 8143  | <code>\LWR@subcustomizedmathjax</code>         | 7239  |
| <code>\LWR@providelength</code>                  | 931   | <code>\LWR@subhtmlclass</code>                 | 6451  |
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| \LWR@tabledatasinglecolumnntag           | 9410         | LWRcreateLwarpmk (environment)  | 1315                 |
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# General Index

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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

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