

HTML markup

HTML is a markup language whose elements define the **structure** of a document. Structural elements include paragraphs, headers, emphasized phrases, lists, tables, images, links, etc. One of the functions of a web browser is to read and render HTML files in a graphical window. What are other functions of a web browser?

You must keep in mind the distinction between the structure and the appearance or **presentation** of a document.

- What defines the structure of a web page?
- What defines the presentation of a web page?

Browsers do not render HTML markup in the same way. You should **not** use HTML tags to define the presentation of your documents. That is what CSS is for (more on this soon).

HTML is *not*:

- A word processor
- A desktop publishing application
- A programming language

Example: Text only - No Structure - No Styling

CSS Zen Garden The Beauty of CSS Design A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page. Download the example html file and css file The Road to Enlightenment Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers. We must clear the mind of the past. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP, and the major browser creators. The CSS Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the time-honored techniques in new and invigorating fashion. Become one with the web. So What is This About? There is a continuing need to show the power of CSS. The Zen Garden aims to excite, inspire, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one will load the style sheet into this very page. The HTML remains the same, the only thing that has changed is the external CSS file. Yes, really. CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrated in a way that gets people excited is by demonstrating what it can truly be, once the reins are placed in the hands of those able to create beauty from structure. Designers and coders alike have contributed to the beauty of the web; we can always push it further. Participation Strong visual design has always been our focus. You are modifying this page, so strong CSS skills are necessary etc.

Same example: Text plus Structure - No Styling

CSS Zen Garden

The Beauty of CSS Design

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example [html file](#) and [css file](#)

The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers.

We must clear the mind of the past. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP, and the major browser creators.

The CSS Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the time-honored techniques in new and invigorating fashion. Become one with the web.

So What is This About?

There is a continuing need to show the power of CSS. The Zen Garden aims to excite, inspire, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one will load the style sheet into this very page. The HTML remains the same, the only thing that has changed is the external CSS file. Yes, really.

CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrated in a way that gets people excited is by demonstrating what it can truly be, once the reins are placed in the hands of those able to create beauty from structure. Designers and coders alike have contributed to the beauty of the web; we can always push it further.

Participation

Strong visual design has always been our focus. You are modifying this page, so strong CSS skills are necessary too, but the example files are commented well enough that even CSS novices can use them as starting points. Please see the [CSS Resource Guide](#) for advanced tutorials and tips on working with CSS.

You may modify the style sheet in any way you wish, but not the HTML. This may seem daunting at first if you've never worked this way before, but follow the listed links to learn more, and use the sample files as a guide.

Download the sample [HTML](#) and [CSS](#) to work on a copy locally. Once you have completed your masterpiece (and please, don't submit half-finished work) upload your CSS file to a web server under your control. [Send us a link](#) to an archive of that file and all associated assets, and if we choose to use it we will download it and place it on our server.

Same example: Text plus Structure - No Styling

Further down the page:

Select a Design:

- [Garments](#) by [Dan Mall](#)
- [Steel](#) by [Steffen Knoeller](#)
- [Apothecary](#) by [Trent Walton](#)
- [Screen Filler](#) by [Elliot Jay Stocks](#)
- [Fountain Kiss](#) by [Jeremy Carlson](#)
- [A Robot Named Jimmy](#) by [meltmedia](#)
- [Verde Moderna](#) by [Dave Shea](#)
- [Under the Sea!](#) by [Eric Stoltz](#)

Archives:

- [Next Designs >](#)
- [View All Designs](#)

Resources:

- [View This Design's CSS](#)
- [CSS Resources](#)
- [FAQ](#)
- [Submit a Design](#)
- [Translations](#)

Same example: Text plus Structure and Styling

The screenshot shows a web page with a dark, textured background. On the left, the text 'ZEN GARDEN' is written vertically in large, white, bold letters. The main content is centered in a large, light-colored circle. The article title is 'The Road to Enlightenment' with a subtitle 'when walking on don't forget to kiss a stranger.' Below the title is a small red heart icon. The text discusses browser-specific tags and the CSS Zen Garden. A right sidebar contains a 'Select a Design' list, 'Archives', and 'Resources' sections. At the bottom, there is a purple footer with text about downloading HTML and CSS files.

The Beauty of CSS Design

when walking on
The Road to Enlightenment
don't forget to kiss a stranger.



Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers.

We must clear the mind of the past. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP, and the major browser creators.

The CSS Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the time-honored techniques in new and invigorating fashion. Become one with the web.

she asked
So What is This

Select a Design:

GARMENTS	by DAN MALL
STEEL	by STEFFEN KNOELLER
APOTHECARY	by TRENT WALTON
SCREEN FILLER	by ELLIOT JAY STOCKS
FOUNTAIN KISS	by JEREMY CARLSON
A ROBOT NAMED JIMMY	by MELTMEDIA
VERDE MODERNA	by DAVE SHEA
UNDER THE SEA!	by ERIC STOLTZ

Archives:

VIEW ALL DESIGNS **Next** ▶

Resources:

VIEW THIS DESIGN'S CSS

CSS RESOURCES	FAQ
SUBMIT A DESIGN	TRANSLATIONS

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example **HTML FILE** and **CSS FILE**

Same example: Text plus Structure and Other Styling



HTML structure

Remember that you must put all the contents of your document within the `<body>` element, as opposed to the `. . .` element. Within the body, there are two kinds of elements:

Block-level or “content flow” element : appears by itself on a separate line

Inline-level or “phrasing content” element : displayed within normal, left-to-right flow

Another difference is that block-level elements may contain within themselves either kind of elements, while an inline-level element may not contain a block-level element.

Examples of block-level elements:

- heading (`<h1>` through `<h6>`), paragraph (`<p>`) , `<blockquote>`, `<div>`

Examples of inline elements:

- quote (`<q>`), `<code>`, emphasized (`` or ``) text

Best practice: Do *not* use the so-called “physical” style elements, such as `...`, `<i>...</i>` and `...`.

List of items

Another way to structure part of a document is to organize contents in a list. There exist three types of lists:

- Unordered lists: ` ... `
- Ordered lists: ` ... `
- Description lists: `<dl> ... </dl>`

For the first two types of lists, each list item must be inside a `...` element.

Description lists are different since they use the `<dt> ... </dt>` and `<dd> ... </dd>` elements.

Lists can be nested inside other lists.

Unordered list example

```
<!DOCTYPE html>
<html lang='en'>
<head>
  <meta charset='utf-8'>
  <title>Unordered list example</title>
</head>
<body>
<p>Some hobbies, in no particular order:</p>
<ul>
  <li>Ping pong</li>
  <li>Tennis</li>
  <li>Scrabble</li>
  <li>Playing guitar</li>
</ul>
</body>
</html>
```

Rendering:

Some hobbies, in no particular order:

- Ping pong
- Tennis
- Scrabble
- Playing guitar

Ordered list example

```
<!DOCTYPE html>
<html lang='en'>
<head>
  <meta charset='utf-8'>
  <title>Ordered list example</title>
</head>
<body>
<p>Some hobbies, in order of preference:</p>
<ol>
  <li>Ping pong</li>
  <li>Tennis</li>
  <li>Scrabble</li>
  <li>Playing guitar</li>
</ol>
</body>
</html>
```

Rendering:

Some hobbies, in order of preference:

1. Ping pong
2. Tennis
3. Scrabble
4. Playing guitar

Description list example

```

<!DOCTYPE html>
<html lang='en'>
<head>
  <meta charset='utf-8'>
  <title>Description list example</title>
</head>
<body>
<p>Some hobbies:</p>
<dl>
  <dt>Ping pong</dt>
  <dd>Also called 'table tennis' but that makes no sense to
me; I think that tennis should be defined in terms of
ping pong, not the other way around (see below).</dd>
  <dt>Tennis</dt>
  <dd><q>I don't know what the big deal is
about tennis; it's just like ping pong,
except that the players are standing on
the table.</q> <em>Coluche</em></dd>
  <dt>Scrabble</dt>
  <dd>Fun, fun, fun...</dd>
  <dt>Playing guitar</dt>
  <dd>Ah, a dream of mine...</dd>
</dl>
</body>
</html>

```

Rendering:

Some hobbies:

Ping pong

Also called 'table tennis' but that makes no sense to me; I think that tennis should be defined in terms of ping pong, not the other way around (see below).

Tennis

"I don't know what the big deal is about tennis; it's just like ping pong, except that the players are standing on the table." *Coluche*

Scrabble

Fun, fun, fun...

Playing guitar

Ah, a dream of mine...

Nested lists example

```

<!DOCTYPE html>
<html lang='en'>
<head>
  <meta charset='utf-8'>
  <title>Nested list example</title>
</head>
<body>
<ol><li>Top-level item
  <ul><li>Second-level item
    <ul><li>Third-level item
      <ol><li>Fourth-level item</li>
        <li>Another fourth-level item</li>
        <li>Yet another fourth-level item</li>
      </ol></li>
      <li>Another third-level item</li>
    </ul></li>
    <li>Another second-level item</li>
    <li>Yet another second-level item</li>
    <li>Last second-level item</li>
  </ul>
</li>
<li>Another top-level item</li>
</ol>
</body>
</html>

```

Rendering:

1. Top-level item
 - Second-level item
 - Third-level item
 1. Fourth-level item
 2. Another fourth-level item
 3. Yet another fourth-level item
 - Another third-level item
 - Another second-level item
 - Yet another second-level item
 - Last second-level item
2. Another top-level item

Attributes

Many elements have attributes that modify some properties of the element. An **attribute** is a name/value pair that is specified with the following syntax inside the opening tag of the element:

```
<... name="value" ...>...</...>
```

For example, the `` and `` elements have a 'type' attribute that specifies the bullet symbols or numbers that appear in front of list items.

The example on the next slide illustrates some of the possible values for this attribute.

Important note

Many of the attributes that are used in existing web pages have been **deprecated** by the W3C. While they are still supported by current browsers, **you should not use them in your new pages**. Instead, you will soon learn how CSS is a better way to achieve the same effect.

Nested lists example with type attributes

```

<!DOCTYPE html>
<html lang="en">
<head><meta charset="utf-8">
  <title>Nested lists with type attributes</title></head>
<body>
<ol type="A"> <!-- other values are 'a', 'I', 'i' and '1' -->
  <li>Top-level item
    <ul type="disc">
      <li>Second-level item
        <ul type="circle"><li>Third-level item
          <ol type="i">
            <li>Fourth-level item</li>
            <li>Another fourth-level item</li>
            <li>Yet another fourth-level item</li>
          </ol></li>
          <li>Another third-level item</li>
        </ul></li>
      <li>Another second-level item</li>
      <li>Yet another second-level item</li>
      <li>Last second-level item</li>
    </ul></li>
  <li>Another top-level item</li>
</ol>
</body></html>

```

Rendering:

- A. Top-level item
 - Second-level item
 - Third-level item
 - i. Fourth-level item
 - ii. Another fourth-level item
 - iii. Yet another fourth-level item
 - Another third-level item
 - Another second-level item
 - Yet another second-level item
 - Last second-level item
- B. Another top-level item

Hyperlinks

Hyperlinks, which are the core elements of the WWW, are specified in HTML using the:

- the **anchor** (or `<a>`) element, which contains the name of the link, and
- the **href** attribute of the `<a>` tag, which contains the URL of the page that is being linked.

```
<a href="...">...</a>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Hyperlink example</title>
</head>
<body>
  <p>Here is a link to
    <a href="http://www.facebook.com">Facebook</a>
  </p>
</body>
</html>
```

Rendering:

Here is a link to [Facebook](http://www.facebook.com)

Absolute versus relative links

The link in the previous example is an **absolute** link since it contains a complete URL, including the protocol (`http://`) and the host name (`www`) and domain name (`facebook.com`). Absolute links are used to link to other web sites.

In contrast, when you need to link to another page within your web site, you can use a **relative** link, which only contains the name of the file and, optionally, the path to this file. This path is relative to the location of the file containing the relative link.

Assume your web site is contained in the `web_site` folder, which has the following contents:

```

      web_site
      /  |  \
     html  css  images
    /  \      /  \
index.html CV.html cat.jpg  Xmas13
                        /  |  \
                        p1.jpg p2.jpg santa.jpg

```

In the file `index.html`, how would you link to:

1. `CV.html`?
2. `cat.jpg`?
3. `santa.jpg`?

Absolute versus relative links: An example

```

<!DOCTYPE html>
<html lang="en">
<head><meta charset="utf-8">
    <title>Anchor examples: absolute versus relative</title>
</head>
<body>
<!-- this is an HTML comment; why would you use comments? -->
Here is my <a href="CV.html">CV</a>

<br> <!-- br is a void element that inserts a single line break -->

<!-- Note that . (the dot) refers to the current directory -->
Or equivalently, here is my <a href="./CV.html">CV</a>

<br>

<a href="./images/cat.jpg">Here</a> is a picture of my cat.

<br><br>

Wanna see a <a href="./images/Xmas13/santa.jpg">Xmas pic</a>?
</body>
</html>

```

Rendering:

Here is my [CV](#)
 Or equivalently, here is my [CV](#)
[Here](#) is a picture of my cat.

Wanna see a [Xmas pic](#)?

E-mail links

By using the `mailto` protocol instead of `http` in the URL, the anchor will automatically launch the default mail program configured for the browser. Example:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Email link example</title>
</head>
<body>
<p>&copy; 2014 - Questions? Email the webmaster
at <a href="mailto:bob@gmail.com">bob@gmail.com</a>
</p>
</body>
</html>
```

Rendering:

© 2014 - Questions? Email the webmaster at bob@gmail.com

Special HTML characters

To produce the following characters between the opening and closing tags of an element: use the following codes:

©	©
<	<
>	>
&	&
	

`<p>Can you tell me why "x < 10" does not validate</p>`

`<p>Can you tell me why "x < 10" is valid</p>`

For more symbols or **entity characters**, see:

- <http://dev.w3.org/html5/html-author/charref>
- <http://www.w3.org/TR/2011/WD-html5-20110113/named-character-references.html>