

Paper 4718-2020

## How to Become a Lazy Programmer

Balakumar Marappa Gounder Ponnusamy, Element Technologies Inc.

## ABSTRACT

As a programmer, how often do you see yourself writing the same skeleton of a code again and again? Quite often right? What if you can cut down that time just by using the necessary fillers? This paper will walk you through how to implement and share abbreviation macros using SAS® Enhanced editor on Windows. This is nothing but an approach to become a lazy programmer in SAS Enterprise Guide® (SAS EG).

## INTRODUCTION

The goal of this presentation is to make any SAS programmer understand what an abbreviation macro is and how it can be used to the best of its potential. The content also provides an idea of how to record macros and improvise them. At the end, you will realize how easy it is save your programming time and become lazy.

## ABBREVIATION MACROS

An abbreviation macro is a user defined string that when executed fills in pre-defined longer string which could be a SAS procedure, header information or any template of text. It will need a name and the related string that should pop-up when the macro is run. It is stored with an extension of .kmf.

## CREATING ABBR. MACROS

Creating an abbreviation macro is very simple.

1. Click Program -> **Add Abbreviation Macro...**
2. In the pop-up window, write the name of the macro under Abbreviation
3. Insert or type the text which has to be abbreviated and Click Ok to save the macro

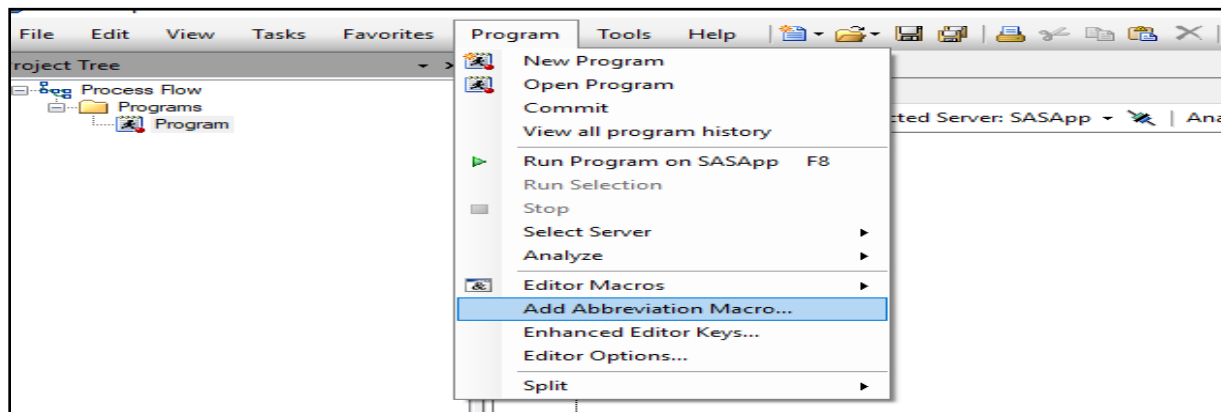


Figure 1. SAS EG Snapshot -to create/add an Abbreviation macro

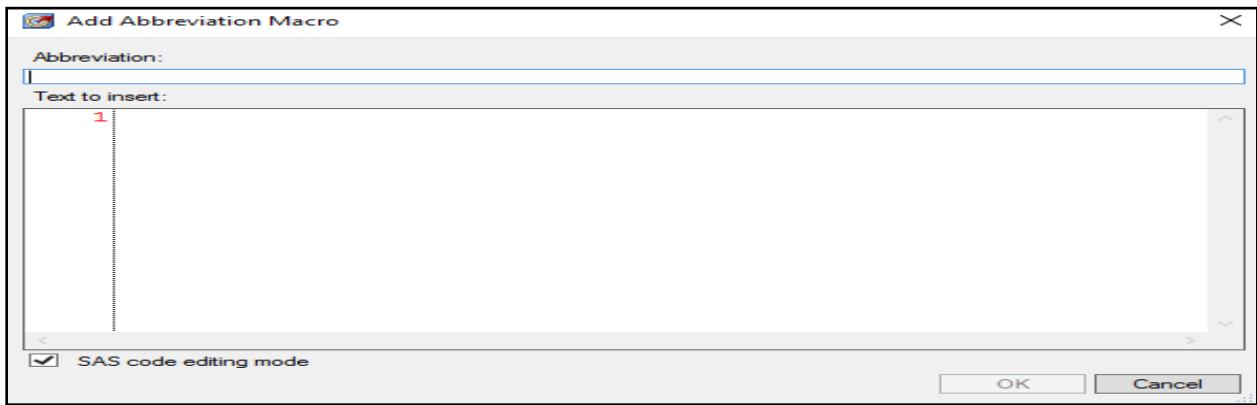


Figure 2. SAS EG Snapshot - Dialogue Box for Macro Name and Content

## METHODS TO RUN ABBR. MACROS

Method 1:

To run the macro in the SAS program window

1. Pressing Control key and Spacebar, it provides a list of predefined SAS macros and list of abbreviation macros with which you can select your macro
2. Type in your macro name and press enter

Method 2:

Click Program -> Editor Macros -> Macros and select your macro and then Click Run.

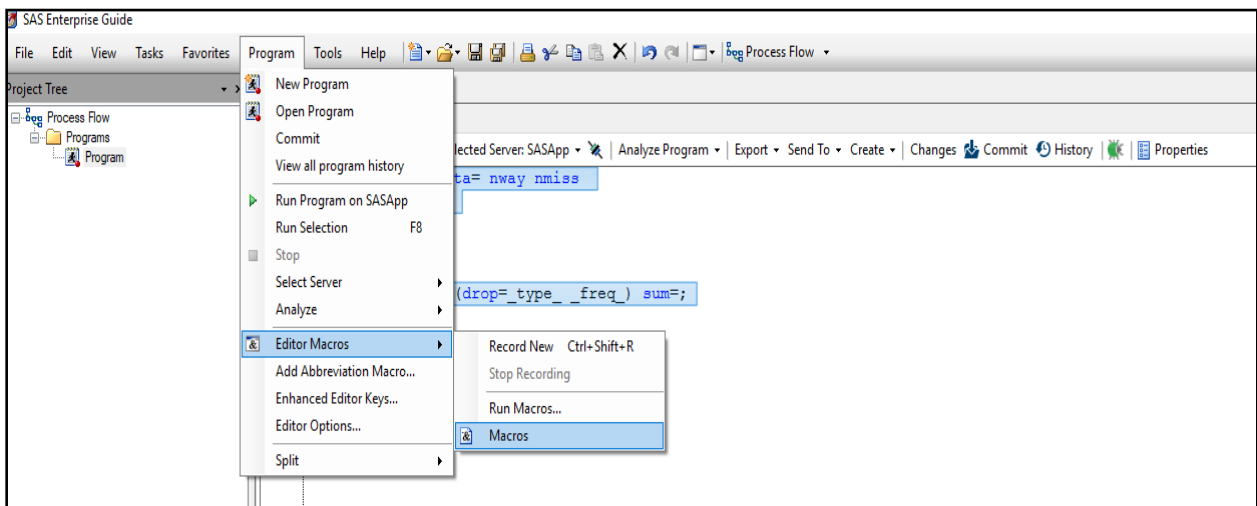


Figure 3. SAS EG Snapshot - Method 2 to run Abbr. Macro

## APPLICATIONS

In day-to-day programming, I use abbreviation macros for the following purposes

1. Syntax Skeletons
2. SAS Job Header
3. Business oriented template codes
4. Logins and SQL connections
5. Knowledge sharing

## SYNTAX SKELETONS

SAS syntaxes can be harder to remember as there are numerous procedures and other related keywords to do various actions. There will be some 10 to 20 PROC statements that are used regularly. A lot of time can be saved when those are created as abbreviation macros.

For example, I have created an abbreviation macro with a name “\_summary” and when run the macro, the Skeleton of PROC SUMMARY will be output and I just have to fill in the necessary details to get the desired summary.

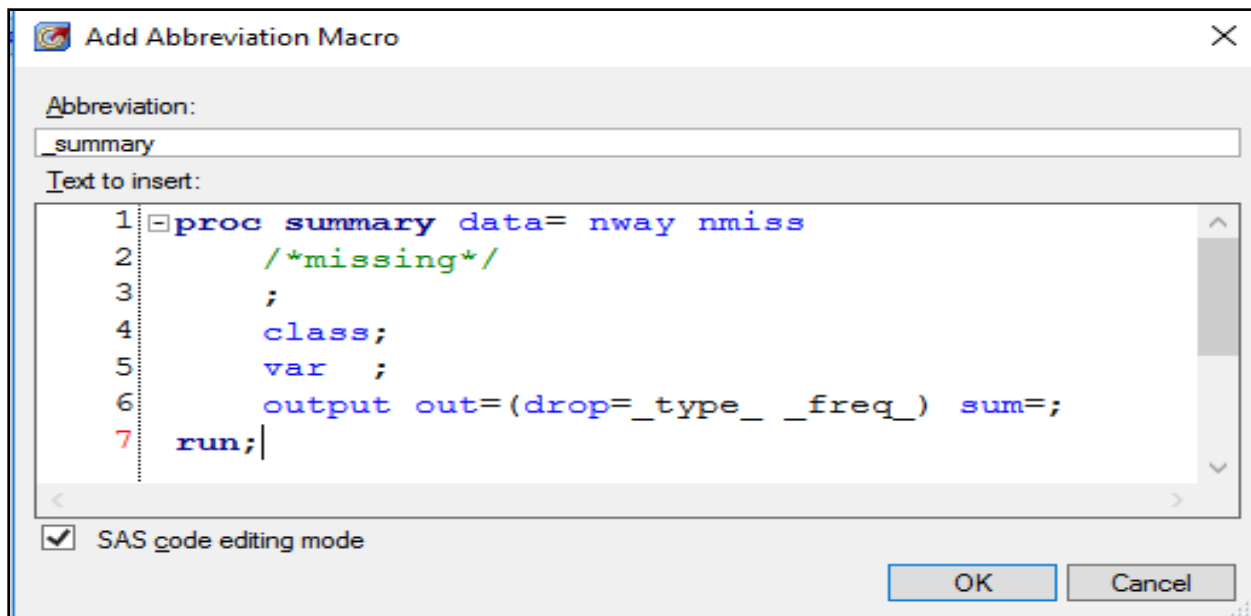


Figure 4. SAS EG Snapshot - Method 2 to run Abbr. Macro

## SAS JOB HEADER

My job requires me to create report and ad-hoc requests for customers. It is necessary for us to provide details of the request as comments at top. When I start to work on that request, I fill in the necessary information in the program header. This way any analyst who reviews or takes over the code, will have a better understanding by reading the information provided under header of SAS job.

## BUSINESS TEMPLATE CODES

As a healthcare analyst, most of my work involves creating membership and claims report. Since the data pull has a standard template of code, it became easier to create an abbreviation macro for such business oriented codes.

## LOGINS AND SQL CONNECTION

The data is spread out in various databases and it requires us to have multiple login information and different database connections. Creating macros for different databases will ease the programming and this can help in avoiding providing wrong passwords in the SQL connections.

## KNOWLEDGE SHARING

The best part of creating abbreviation macros is that we can export/import and share it with the team. This can be done via Enhanced Editor in Program drop down. Clicking on Export will let you save the macro as .kmf file. We can also import by clicking Import from

the desired location. Similarly, there are other options like Assigning keyboard shortcut to run a macro, Edit/Delete existing macros.

#### STEPS TO EXPORT:

1. Click Program -> Editor Macros -> Macros
2. Clicking on Macro that is to be exported
3. Click Export will let you save the macro as .kmf file

#### STEPS TO IMPORT:

1. Click Program -> Editor Macros -> Macros
2. Click Import
3. Navigate to desired path
4. Click on the necessary macro to import and then Click OK
5. Then Close the pop-up window

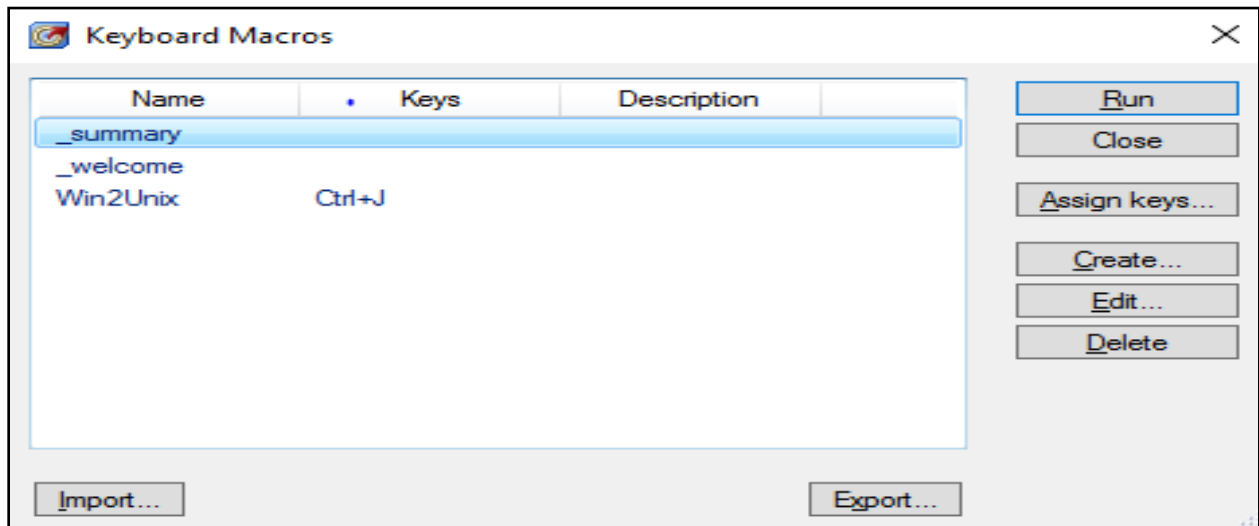


Figure 5. SAS EG Snapshot – Keyboard Macro options

## RECORDING MACROS IN SAS ENTERPRISE GUIDE®

Certain actions in coding are repetitive. In general, I use Find/Replace, Copy/Paste or Insert/Delete during coding. We can minimize that time using the recorded macros in SAS Enterprise Guide®. **SAS Editor Macros has a "RECORD MACRO" feature.** In keyboard, when we press Ctrl + Shift + R, SAS initiates to record the next actions being performed within that SAS Enterprise Guide® environment. By pressing Ctrl + Shift + R again, SAS completes the recording and asks to save it with a name.

#### STEPS:

When in Program window,

1. Click Program -> Editor Macros -> Record New
2. Perform your necessary actions until you think it is complete
3. Click Program -> Editor Macros -> Stop Recording
4. Provide a Name for the recorded macro
5. To review/edit the macro, Click Program -> Editor Macros -> Macros ->

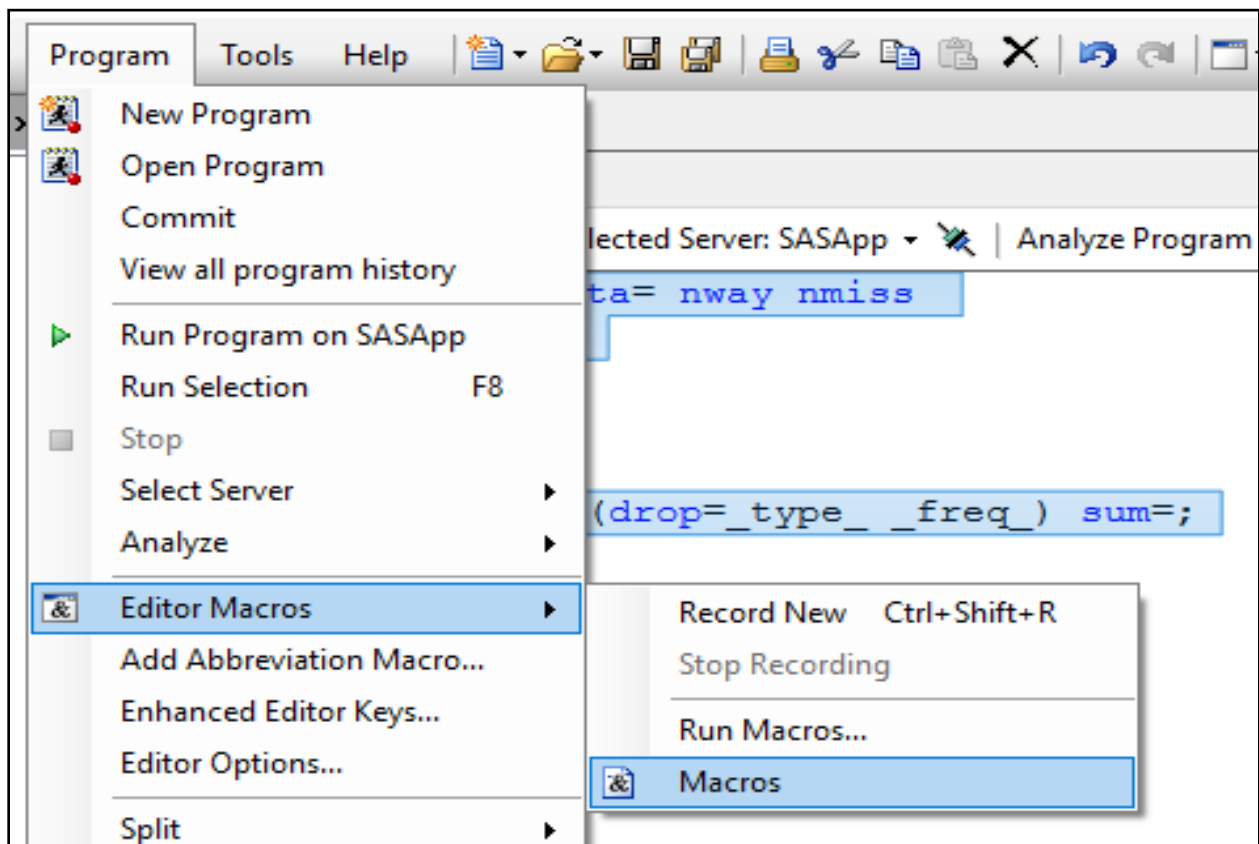


Figure 6. SAS EG Snapshot – Recording a Macro option

6. Select your recorded macro and Click Edit

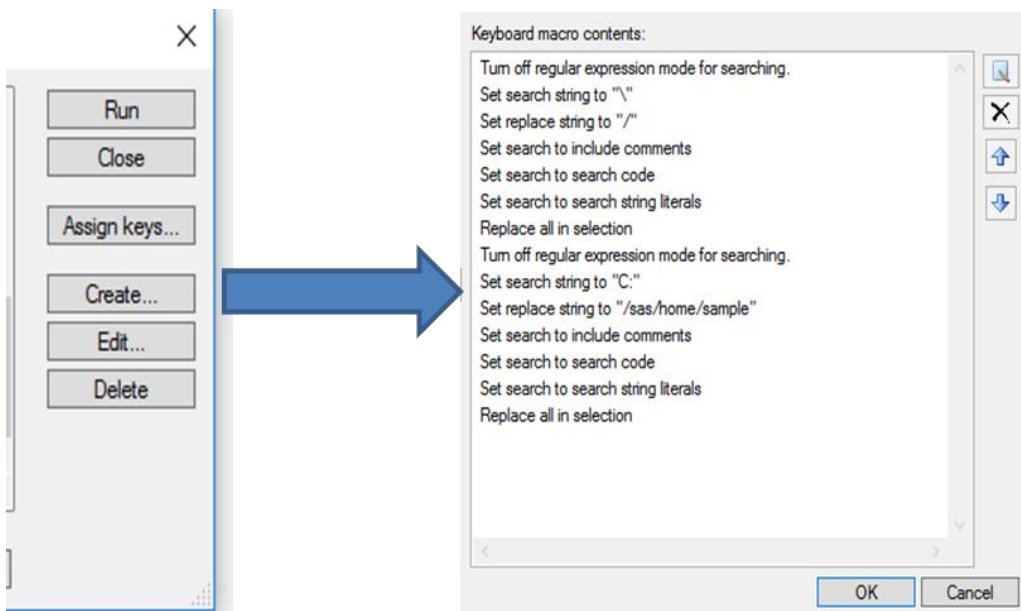


Figure 7. SAS EG Snapshot – A Recorded Macro

For example, if someone needs to convert the windows path to UNIX path, the action performed is find and replace the forward and backward slashes. If this action can be recorded as macro and assigned with a keyboard shortcut, ample amount of time is saved by pressing that shortcut.

## CONCLUSION

SAS Abbreviation macros help in reducing the coding time to huge extent. This will let the programmer to be more creative in his business areas and focus less on memorizing or googling the syntax. Recording, creating macros and assigning a keyboard shortcut to it will cut down more manual effort on those tasks. The best part is to create and share with others with which they can also be benefitted. The idea of using an abbreviation macro is not restricted to the topics discussed.

## REFERENCES

**Ceranowski, Elizabeth. 2009. "SAS® Abbreviations Are Your Friends; Use a Template Method to Code!" Proceedings of the SAS Global Forum 2009. Washington, DC.**

<http://support.sas.com/resources/papers/proceedings09/073-2009.pdf>

Bikwemu, R. (2017). SAS Abbreviation: The Snippets that Keep on Giving. Retrieved from [https://www.lexjansen.com/wuss/2017/110\\_Final\\_Paper\\_PDF.pdf](https://www.lexjansen.com/wuss/2017/110_Final_Paper_PDF.pdf)

Considering a Sas Global Forum 2015 Presentation? Try an E-poster! David Moors- Sas - <https://blogs.sas.com/content/sgf/2014/09/29/considering-a-sas-global-forum-2015-presentation-try-an-e-poster-2/>

## CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

Balakumar Marappa Gounder Ponnusamy  
Element Technologies Inc.  
balakumarpa@gmail.com