

Customising the Version 8 Environment

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ABSTRACT

With the advent of Version 8 for the SAS System it has become possible to customise various aspects of the user interface. The enhanced editor provides the functionality for coloured coded programs. Keywords, formats, quoted strings and numbers are just some of the aspects that we can colour. The docking views allow us to keep certain windows on display at all times. The Output Delivery System (ODS) can produce reports against the company logo or colour scheme via Proc Template. The question is what should we as programmers change and how do we do it. This paper is intended for anyone interested in customising part of his or her SAS interface within the Windows environment.

INTRODUCTION

We know it is possible to customise areas within version 8, but what can be altered and how can it be done. The areas that can be customised include: -
Enhanced Editor
Program Editor
Results Window
Explorer Window
ODS Output

This paper will look into each of these areas and investigate the various features that can be customised by the SAS user. This paper will demonstrate the main areas of new customisation throughout the SAS System within

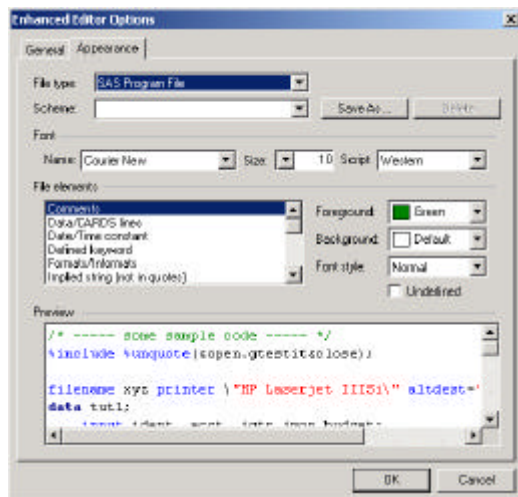
Version 8. It is acknowledged that there are a number of areas for possible customisation within SAS, such as splashlocation, however, these are ignored due to their availability within Version 6.

ENHANCED EDITOR

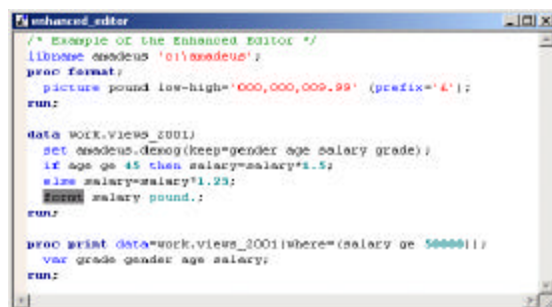
The Enhanced Editor was introduced to the SAS System in Version 8.0 and enables the user to program using more intelligent methods. Various aspects of the workspace can be customised to suit the individual needs of the programmer. Individual facets of SAS code can be customised, such as: -

- Comments
- Keywords
- Macro Code
- Procedure Names
- Section Words
- Undefined Keywords

These areas of SAS code can be altered in terms of their colour, font, font style and background colour. Independent schemes can be designed and saved for individuals. All of these can be accessed via the
Tools → Options → Enhanced Editor
Pull down menus, on the appearance tab.

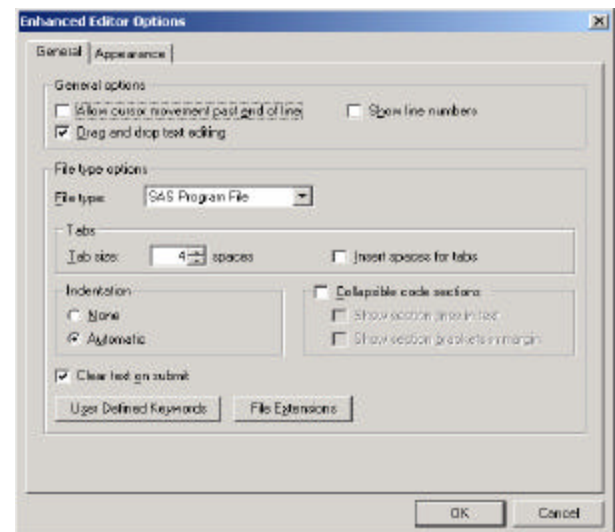


Obviously the customised scheme is at the discretion of the individual programmer but can be used for a number of purposes. Identification of undefined keywords can be made easily by, perhaps, setting them to be displayed in red with a highlighted grey background. Unbalanced quoted strings should become a thing of the past!! Quoted strings could be displayed in bright red; therefore an (accidentally) forgotten quotation mark would result in whole sections of code being highlighted in red.



A number of more general options are also available for the Enhanced Editor. It is possible to add number lines (not version 6 style prefix line numbers though), collapse code sections, add indentations, create your own User defined keywords and have the code clear from the editor upon being submitted. All of these can be accessed via the

Tools → Options → Enhanced Editor
Pull down menus, on the General tab.

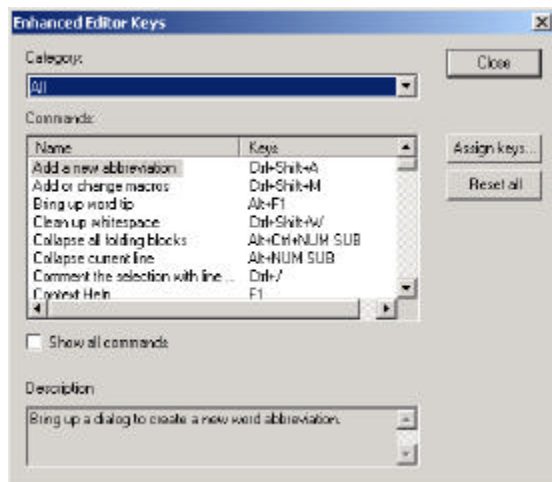


Other features of the enhanced editor that can be used in order to customise your own SAS environment include: -

- Enhanced Editor Keys
- Abbreviations
- Bookmarks
- Multiple Windows
- Keyboard Shortcuts

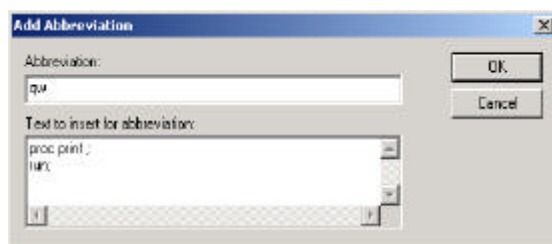
Enhanced Editor Keys

The user can use Enhanced Editor Keys, for commonly performed tasks within the Editor. It is also possible to assign new keystrokes to these tasks. This can be accessed via the Tools → Options → Enhanced Editor Keys Pull down menus.

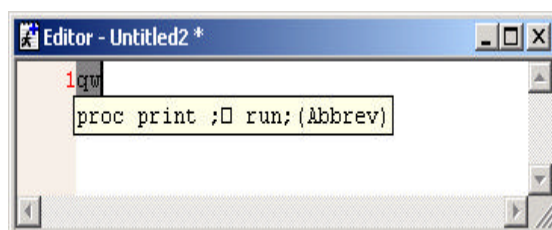


Abbreviations

The user can set his or her abbreviations for SAS code that is used frequently within their coding. This can be accessed via the Tools → Add Abbreviation Pull down menus.



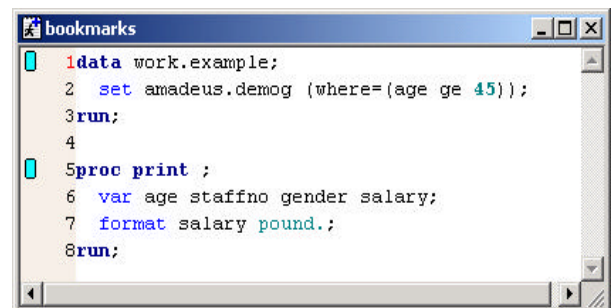
Whenever the keys “qw” are typed, in any future SAS Session, the user will be able to select the corresponding abbreviation. The Tab key must be used to make this selection.



Bookmarks

Bookmarks can be added within SAS programs in order that certain areas of the code can be found easily. Bookmarks could be added

at each major point within the code enabling the programmer to move to the key areas quickly. Particular problem areas could be highlighted for future reference. Bookmarks can be added to a certain line within the program by selecting ctrl and F2 whilst the cursor is on that line. Selecting ctrl and F2 again on that line will remove that particular bookmark. If there are multiple bookmarks within the current SAS program the programmer can move between them by using the F2 key. This action will cycle around all the Bookmarks in turn. A program saved with active bookmarks will unfortunately not retain the bookmarks upon the program being re-opened whether in the current or subsequent SAS sessions.



Multiple Windows

Within Version 8 of the SAS System it is possible to open more than one Enhanced Editor. This is useful as it allows the programmer to look at code from an existing program. This was not easy in Version 6 unless a third party package was used. Although this can be a very useful feature it could also be a potential problem. If more than Enhanced Editor, and hence program, is open it can lead to the user altering the “wrong” program. One suggestion could be to open the relevant program, copy the relevant code and then

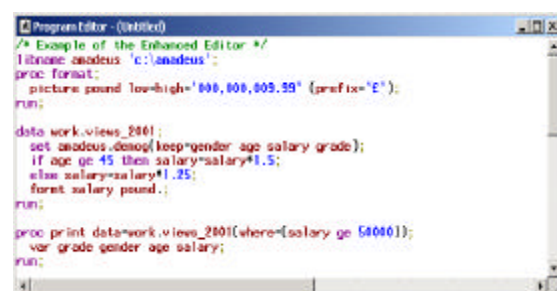
immediately close the program before any confusion can begin!

Procedure Help

Finding Help on the syntax of a particular procedure has been made a lot easier in Version 8. With the cursor within the procedure name simply press the F1 key, the relevant procedure syntax will be displayed.

PROGRAM EDITOR

The program editor within Version 8 still has the same purpose as it did under version 6. It is still only possible to have one program editor open at once. From Release 8.2 onwards it has been possible to have some colour coding within the Program Editor as well as the Enhanced Editor. Release 8.1 must have the `–colorpgm` command within the config file but Release 8.2 can use the colour coded program editor without any extra configuration options. Within SAS the “syncolor” or “color syntax” commands must be issued in order to display the code within the program editor in the current colour scheme.



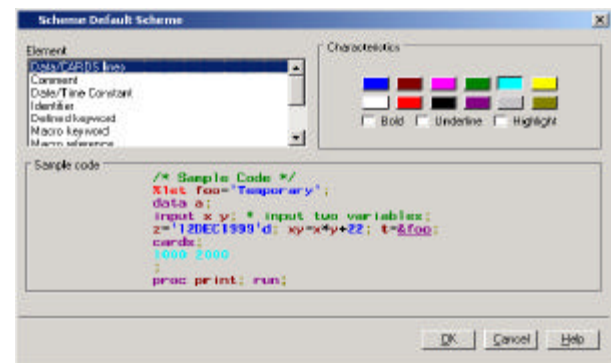
```
/* Example of the Enhanced Editor */
libname anadous 'c:\anadous';
proc format;
  picture pound low-high=999,999,999.99 (prefix='£');
run;

data work.views_2001;
  set anadous.danogl(keep=gender age salary grade);
  if age ge 45 then salary=salary*1.5;
  else salary=salary*1.25;
  format salary pound.;
run;

proc print data=work.views_2001(where=(salary ge 5000));
  var grade gender age salary;
run;
```

The aspects that can be coloured within the Program Editor are not as widespread as those within the Enhanced Editor. However the main sections can still be highlighted in a number of ways.

The set of default colours can be altered via the “synconfig” command.



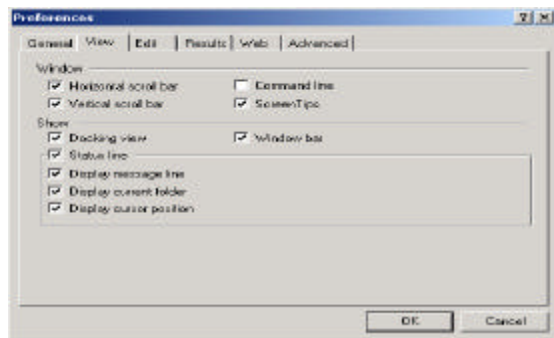
Schemes can be saved, and shared, so individuals using SAS on the same PC can have their individual colour settings.

RESULTS WINDOW

The Results window allows the user to view all of their results using a hyperlink style window. Any output within the traditional output window, html files or rtf files can be viewed via the Results window.

By default the Results window is “docked”, this means that the window cannot be moved from its default location on the left hand side of the SAS Workspace. Other windows within the Workspace cannot be placed upon the Results window when it is within this docked view. This does result in this window always being displayed but does limit the amount of available room left for other windows within the Workspace. This view can be removed by issuing the display manager command of “wdockview” or alternatively via the pull down menus.

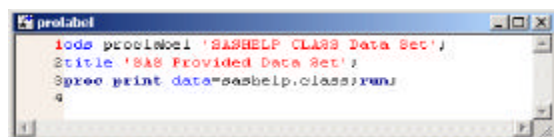
Tools → Options → Preferences



And toggle off the Docking View option.

The result window can be expanded in much the same way as the Explorer windows (SAS and Microsoft). Thus allowing all available output to be viewed in a variety of different ways.

By default SAS shows the output in the Results window with the SAS title as the title associated with the piece of output. Obviously the SAS title can be altered with title statements to change that shown in the Results window. However, this will affect the titles displayed on any output as well. The ODS proclabel statement can be used to alter the description within the results window but not the title shown upon the output.

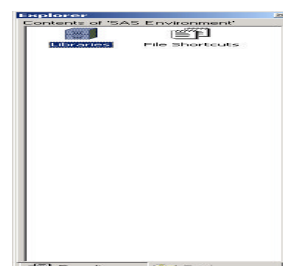


Obs	Name	Sex	Age	Height	Weight
1	Alfred	M	14	69.0	112.5
2	Alice	F	13	56.5	84.0
3	Barbara	F	13	65.3	98.0
4	Carol	F	14	62.8	102.5
5	Henry	M	14	63.5	102.5
6	James	M	12	57.3	83.0
7	Jane	F	12	59.8	84.5
8	Janet	F	15	62.5	112.5
9	Jeffrey	M	13	62.5	84.0
10	John	M	12	59.0	99.5
11	Joyce	F	11	51.3	50.5
12	Judy	F	14	64.3	90.0
13	Louise	F	12	56.3	77.0
14	Mary	F	15	66.5	112.0
15	Philip	M	16	72.0	150.0
16	Robert	M	12	64.8	128.0
17	Ronald	M	15	67.0	133.0
18	Thomas	M	11	57.5	85.0
19	William	M	15	66.5	112.0

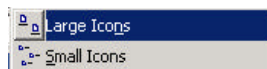
A majority of Output within Version 8 of SAS is accessible through the Results window, although it is possible to restrict output from being sent to this window. The ods noresults statement will allow the user to still create output within the output window but limit it from being displayed within the Results window.

EXPLORER WINDOW

The Explorer window allows the user to view all available connections within the current SAS session. By default the SAS Explorer allows the user to select available libraries or filenames. From these options the user can view datasets, catalogs, variables, source entries. This window is linked to the Results window, in that both windows are docked by default. Altering either windows docking view status automatically affects the other window. The Explorer window can be docked/undocked in the same way as the Results window.



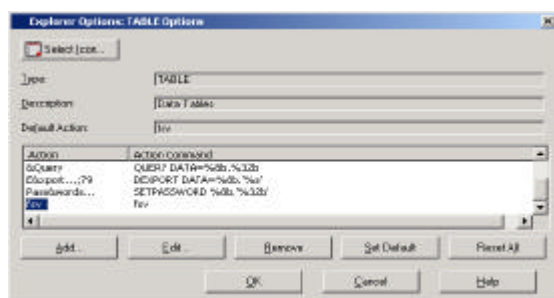
The icons displayed can be altered in size, between Large and Small icons, via the View Pull down menu.



Alternatively the information can be displayed in either List or Detail form. The detail display can allow the user to see information regarding the file such as modification dates, size and file types. These options can also be accessed via the View Pull down menu or by using the toolbar icons.

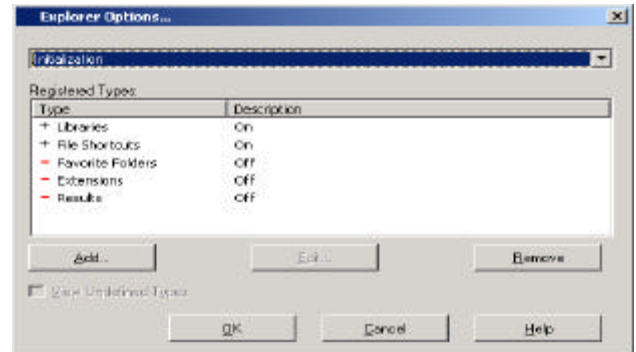


It is possible to alter the file types displayed within the Explorer window, Tools → Options → Explorer. The default list of file types is Access, Catalog, Table, FDB, MDDb, Program and View. Any of these types can be removed from the Explorer window. Each of these file types can be edited in terms of their default actions and descriptions. For example, a data table has the default action of viewtable, this could be altered to become FSVIEW or the VAR window if these actions are more practical and useful within the current session.

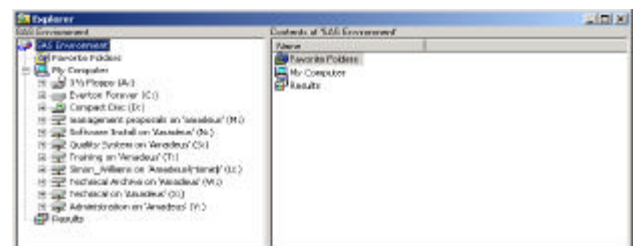


We have discussed how upon initialisation the Explorer window displays just the library connections

and the file shortcuts. It is possible to alter the icons displayed and add other options. By selecting Tools → Options → Explorer and then the Initialisation tab.



The Libraries and File shortcuts are selected by default but it is possible to remove these options and select any from Favourite Folders, Extensions and Results.



As we have seen the Results and Explorer windows can be customised in a number of different ways. It is of course up to the individual how they customise his or her own set up. What one individual may like within the Results or Explorer window another individual may not!

CUSTOMISING YOUR SAS OUTPUT

Proc Template is a new procedure within Version 8 and can be used to customise your actual SAS output; colour schemes or company logos could be added to your SAS output to give reports that extra edge. Proc Template

code can be as simple or as difficult as required by the user. Very simple colour changes or logo additions can be made with a minimum of SAS code. Of course more complicated colour or logo changes require more code.

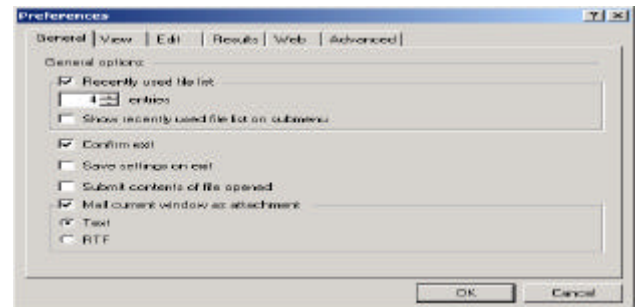
The intricacies of Proc Template will not be explained here as they are covered in a number of existing papers and SAS articles. However, the new procedure has been used to produce a template for some example SAS output.

The template (style) is actually explicitly referenced within the ODS statement and as such many styles can be made available to the user to decide which, if any, to use.

GENERAL CUSTOMISATION

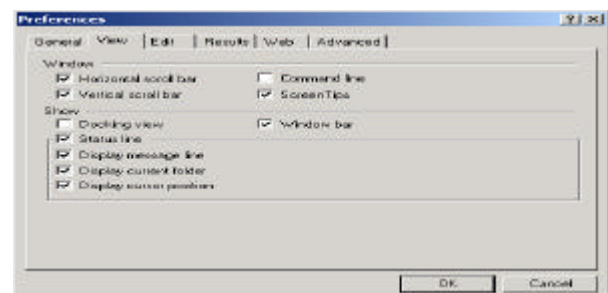
So far all the customisations have concentrated on one particular area of the SAS interface. We will now look at more general options that allow the user to customise their interface.

From the pull down menus select Tools → Options → Preferences

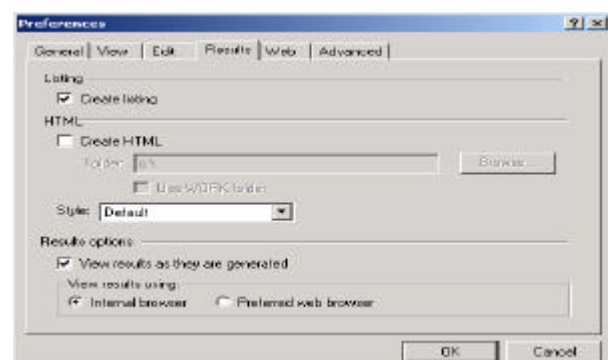


The number of recently opened .sas files can be altered here; these can also be shown on a submenu rather than listed on the normal File pull down menu.

Whether to confirm with the user that they do wish to exit SAS or have the ability to exit SAS straight away. All settings can be saved upon exiting SAS as well via this screen.



Display options such as Docking View and the status line are available via the View tab.



From within the Results tab it is possible to alter the default settings of ODS options. By default ODS will produce a listing; send

information to the output window. It can be altered to create html files within a specific directory.

There are other available options within the preferences tab only the main aspects have been highlighted above.

CONCLUSION

So now that we know how to customise certain aspects of the version 8 SAS environment we have to decide which aspects to make use of. Of course I, nor anybody else, can tell you which areas should and shouldn't be customised. After all we all have our own personal preferences. Some of the aspects, especially within the enhanced editor, can make the job of the SAS programmer easier. Spotting coding errors and missing quotes is one particular benefit of the new enhanced editor. Shortcut options allow more efficient use of time for the programmers concerned.

Other customisations are more visual to the user in the various areas of the workspace but utilising Proc Template does allow the user to create reports with company logos and colour schemes relatively easily.

Now it's over to you, the programmer, have fun customising your system but remember to do your work as well!!!!