

Using the ODS Graphics Designer to Create Your Own Templates

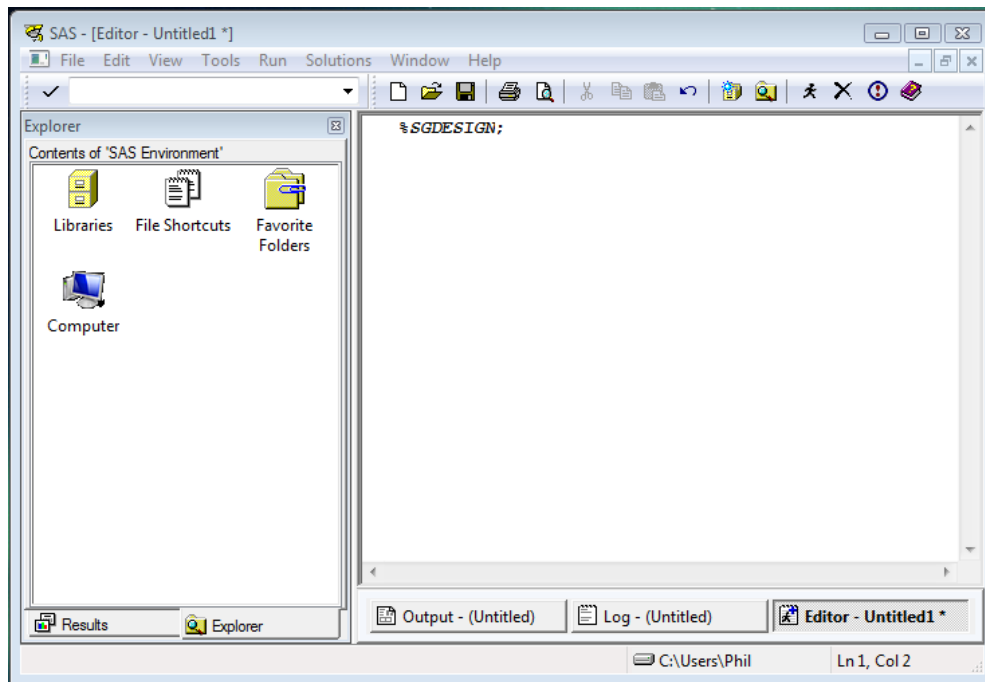
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ABSTRACT

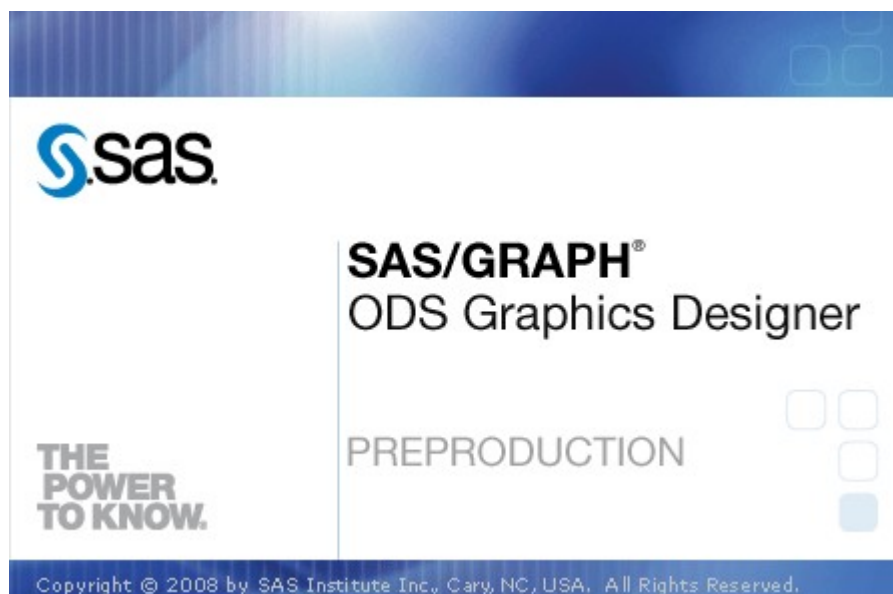
The pre-production release of the ODS Graphics Designer in SAS 9.2 Phase 2 provides a GUI interface for building ODS templates for graphs. This paper shows how to make use of this tool to build a basic ODS template for almost all types of graphs.

HOW TO START THE ODS GRAPHICS DESIGNER

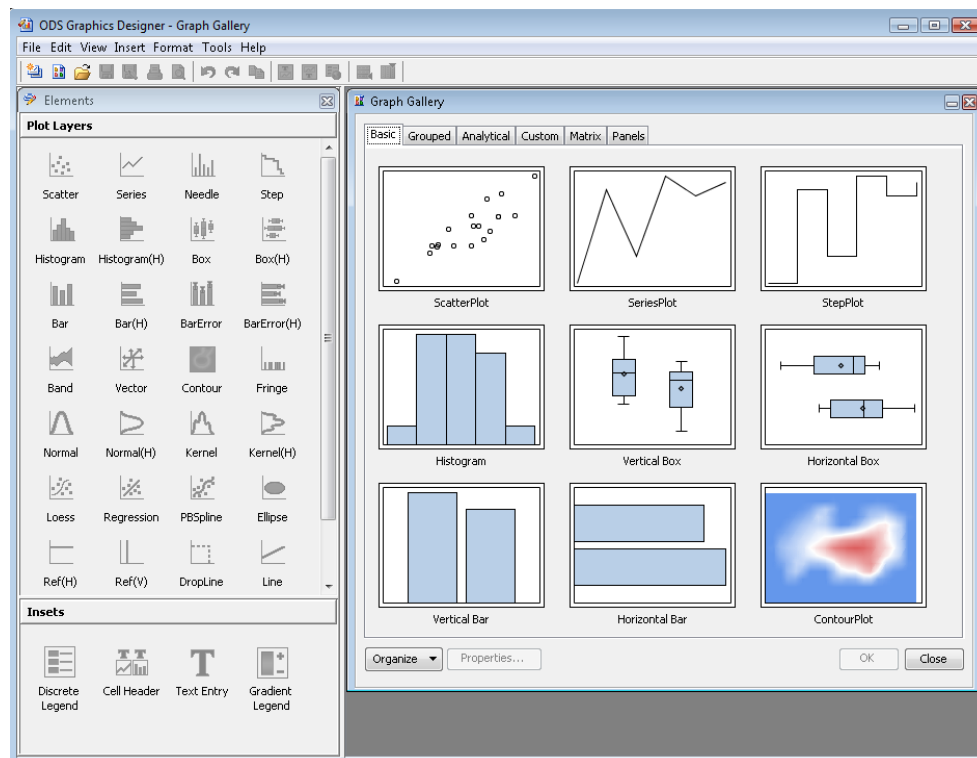
The ODS Graphics Designer can be started from within SAS 9.2 with a macro call.



This starts a Java application which can be used to build ODS Graphics templates, and then send them back to SAS for execution.



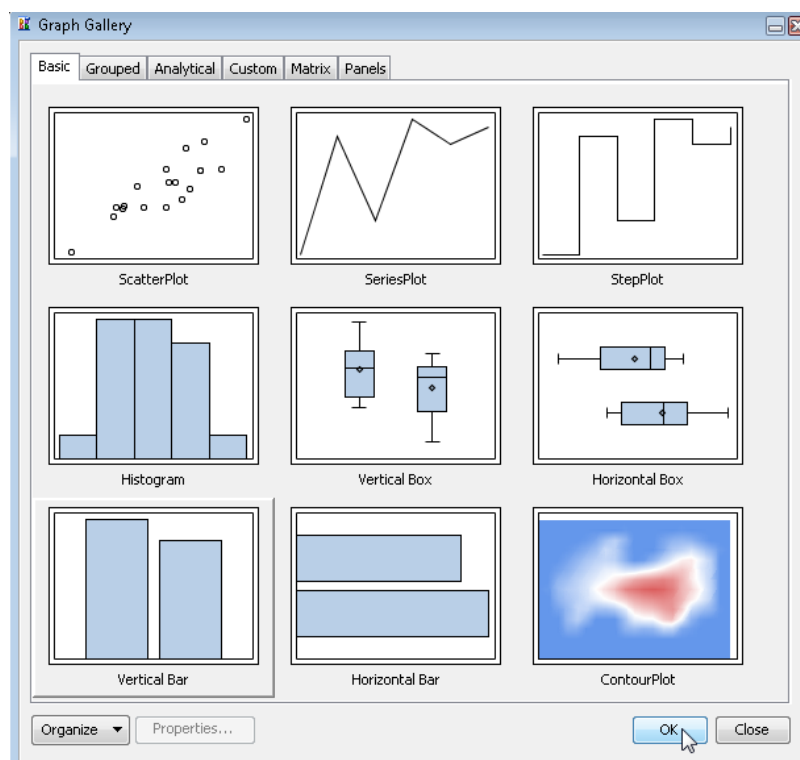
The initial screen layout includes Elements and Graph Gallery.



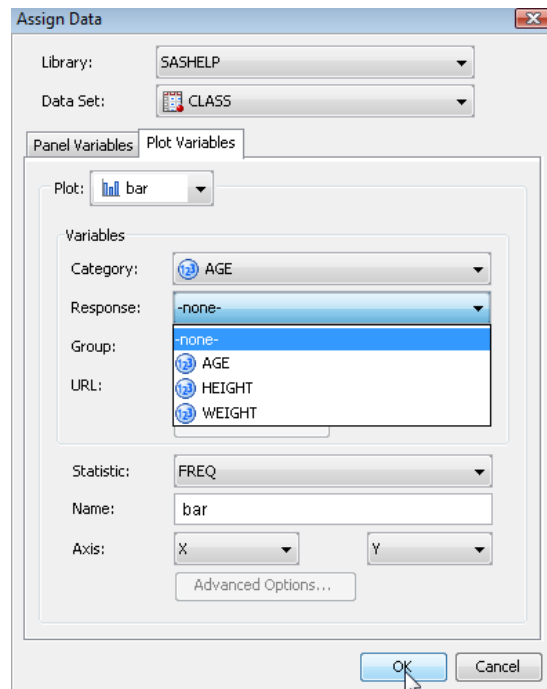
As the ODS Graphics Designer is not part of the SAS System, but an external program using the SAS software environment, the SAS data sets used to create templates must be stored as permanent SAS data sets in accessible libraries.

USING THE GALLERY TO CREATE SIMPLE TEMPLATES

The Gallery provides a collection of typical graphical reports that can be used as starting points for more complex reports, but can be used with minimal customisation to generate simple templates.



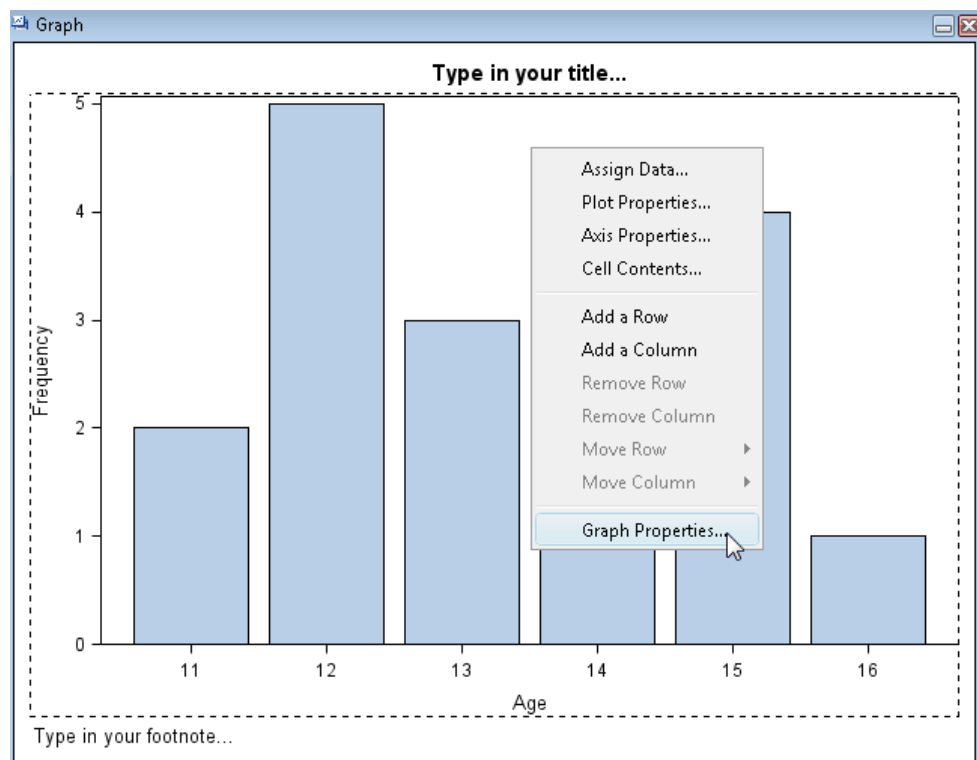
Once a Gallery entry has been selected you will be asked for details of the data to be plotted.



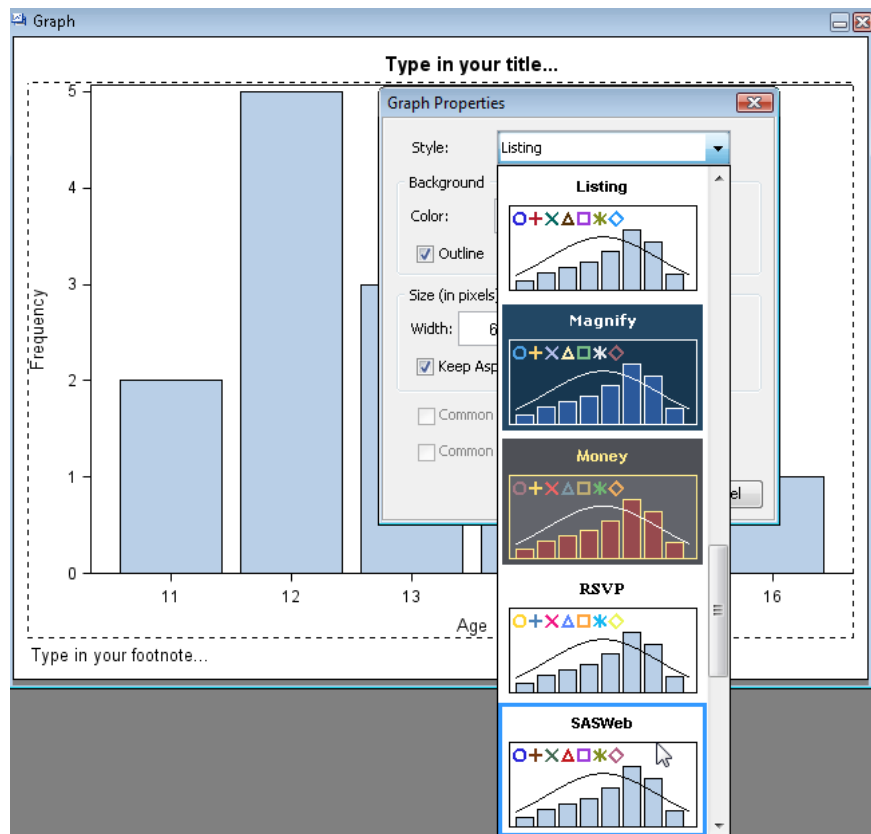
The 'Assign Data' dialog box is shown with the following settings:

- Library: SASHELP
- Data Set: CLASS
- Panel Variables: (empty)
- Plot Variables: (empty)
- Plot: bar
- Variables:
 - Category: AGE
 - Response: -none-
 - Group: -none-
 - URL: AGE, HEIGHT, WEIGHT
- Statistic: FREQ
- Name: bar
- Axis: X, Y
- Advanced Options... (button)
- OK (button)
- Cancel (button)

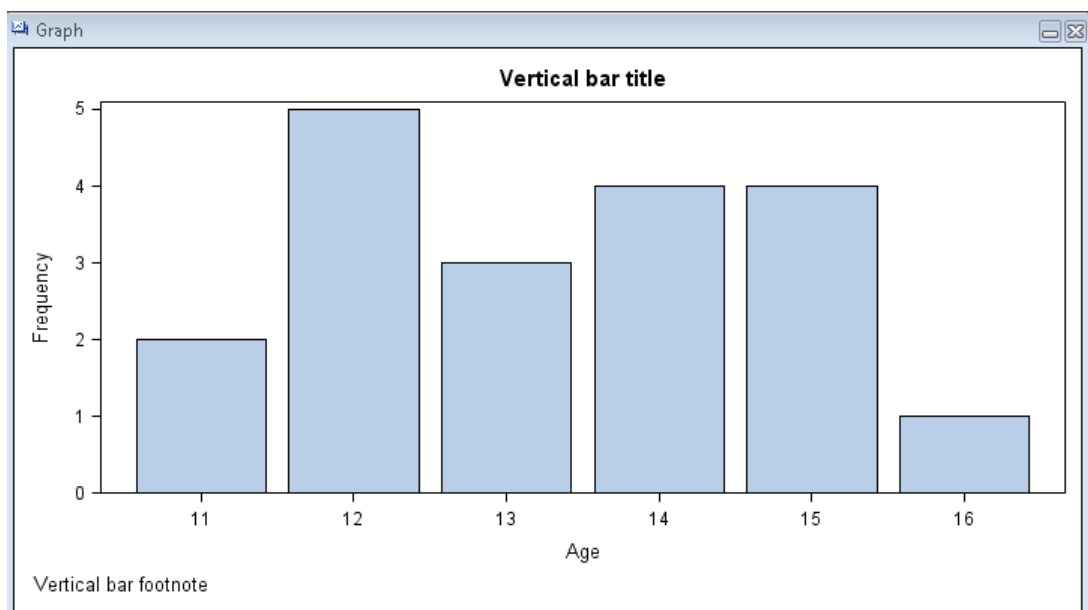
The style and graph layout can also be selected.



The Graph Properties option is used to change the style, background and image size.



The graph and the code can be viewed together, if the Code window is not already visible, by clicking on the View menu option and selecting Code.

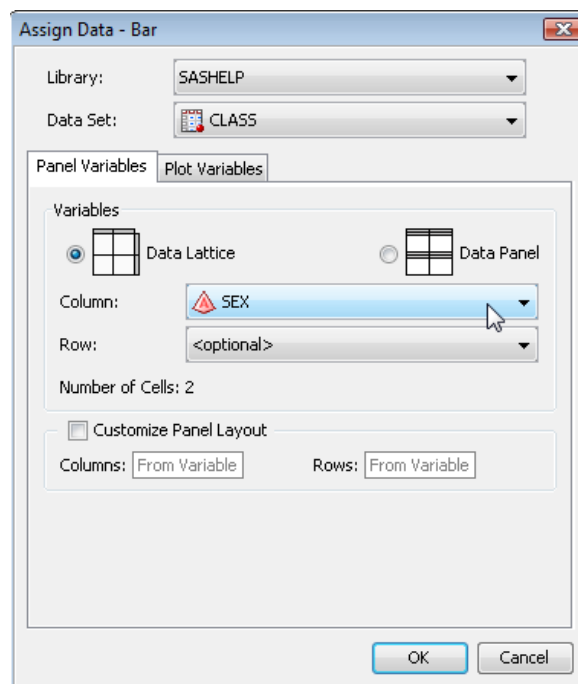


Note that, because I had not explicitly specified the size of the image, changing the size of the Graph window will automatically change the DESIGNHEIGHT= and DESIGNWIDTH= values on the BEGINGRAPH statement.

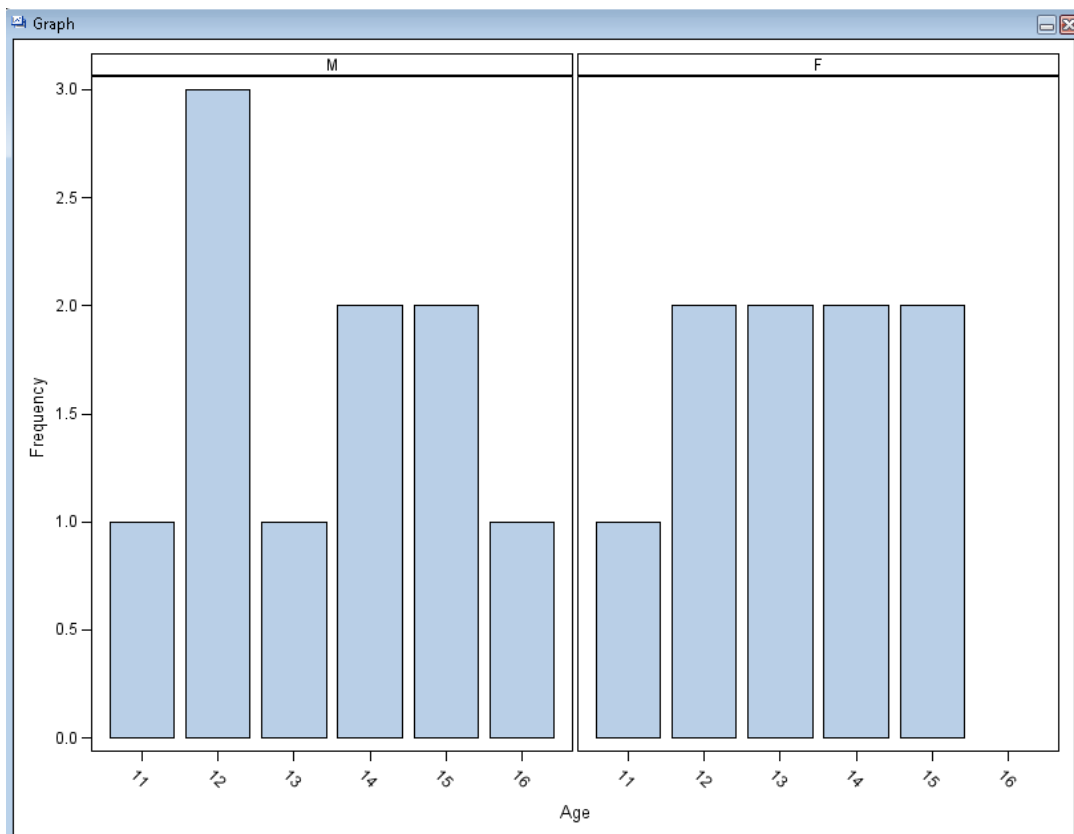
```
Code - Graph

proc template;
define statgraph sgdesign;
dynamic _AGE;
begingraph / designheight=376 designwidth=712;
entrytitle _id='title' halign=center 'Vertical bar title' /;
entryfootnote _id='footnote' halign=left 'Vertical bar footnote' /;
layout lattice _id='lattice' / columndatarange=data columngutter=10 rowdatarange=data rowgutter=10;
    layout overlay _id='overlay' /;
        barchart _id='bar' x=_AGE y=_HEIGHT / name='bar' stat=freq;
    endlayout;
endlayout;
endgraph;
end;
run;
```

There is also an opportunity now to split the graph into a panelled layout using the Assign Data option and specifying the Panel Variables.



This will create the following graph,

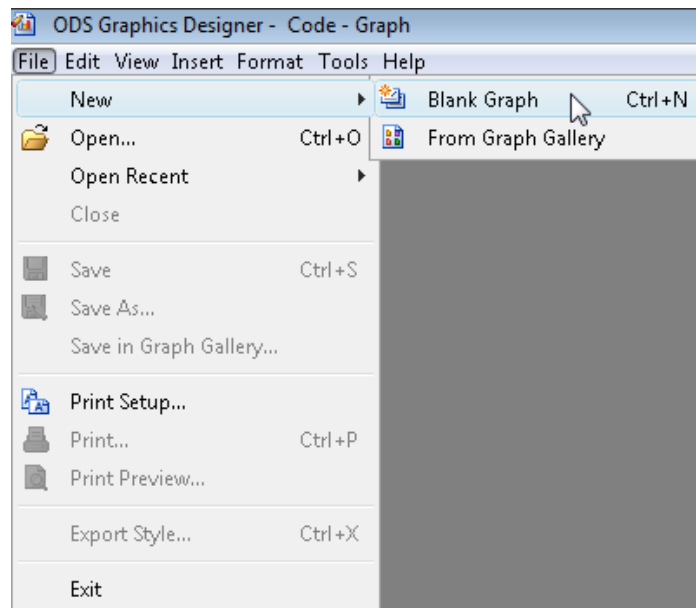


with the corresponding code for the template.

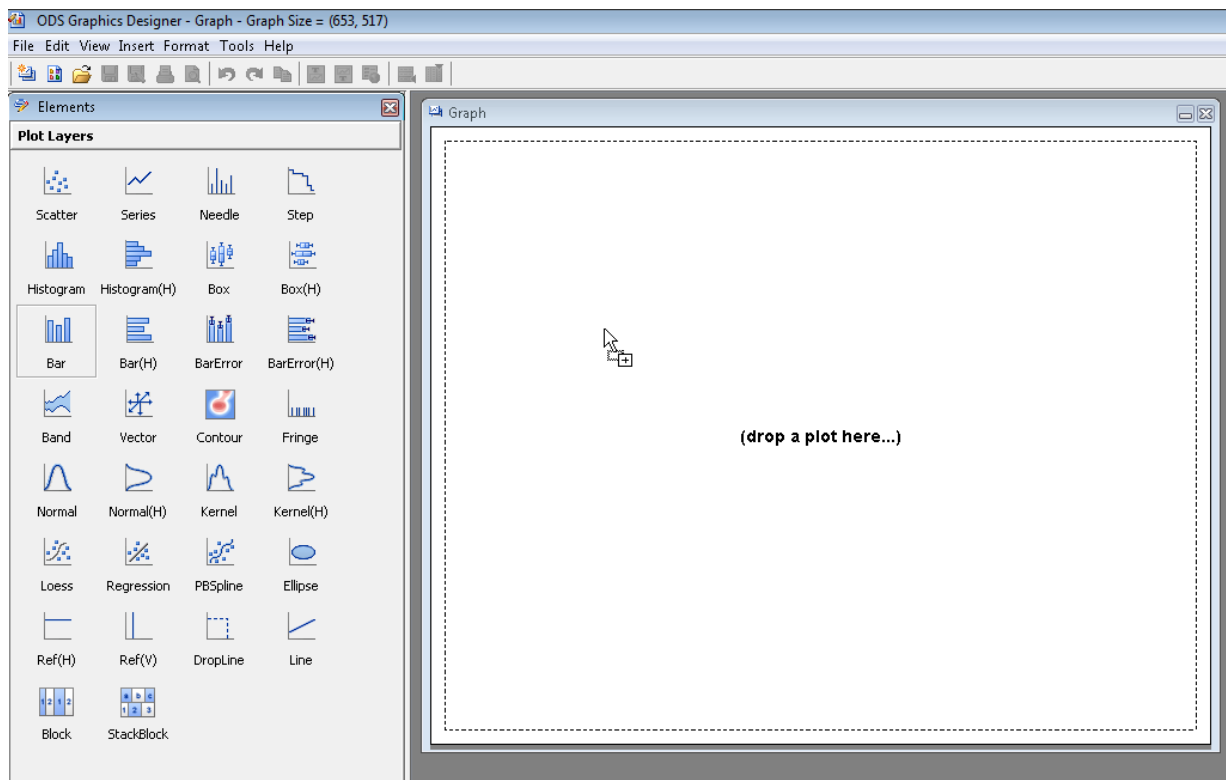
```
Code - Graph
proc template;
  define statgraph sgdesign;
    dynamic _panelnumber_;
    beginnograph / designheight=600 designwidth=800;
    layout datalattice _id='datalattice' columnvar=SEX / panelnumber=_panelnumber_ cellheightmin=1
      cellwidthmin=1 columnaxisopts=(type=discrete) columndatarange=unionall columngutter=3 columns=2
      headerlabeldisplay=value rowdatarange=unionall rowgutter=3 rows=1;
      layout prototype _id='prototype' /;
      barchart _id='bar' x=AGE / barwidth=0.85 name='bar' stat=freq;
    endlayout;
  endlayout;
endgraph;
end;
run;
```

BUILDING A TEMPLATE FROM A BLANK GRAPH

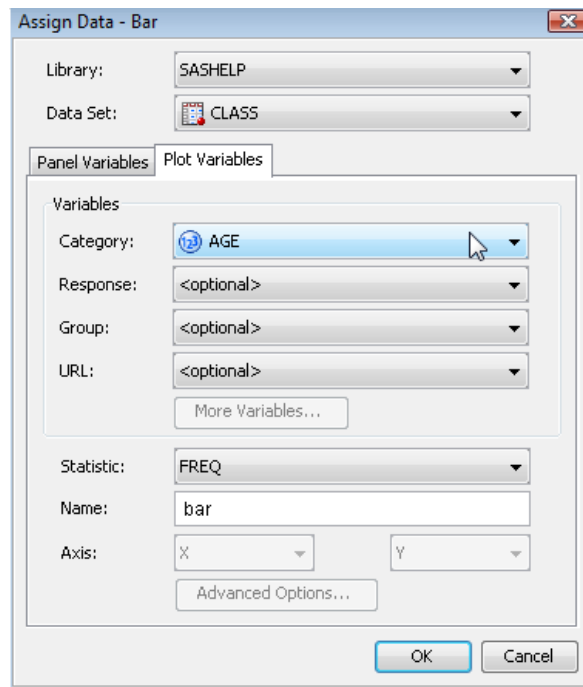
The difference between a Gallery entry and a blank graph is that no defaults have been set, so you have much more control over the content and layout of the final template.



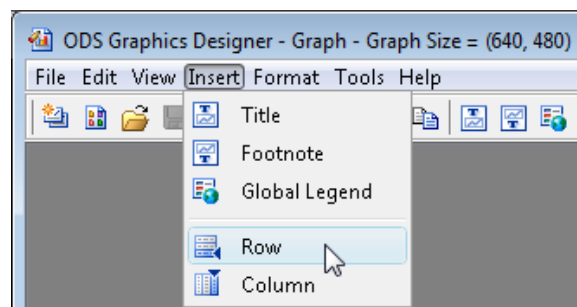
A blank graph is created ready for you to add what you need. It is now straightforward to add multiple graphical objects that use the same data to a single graphical report. You just drag the Elements from the appropriate group onto the graph area.



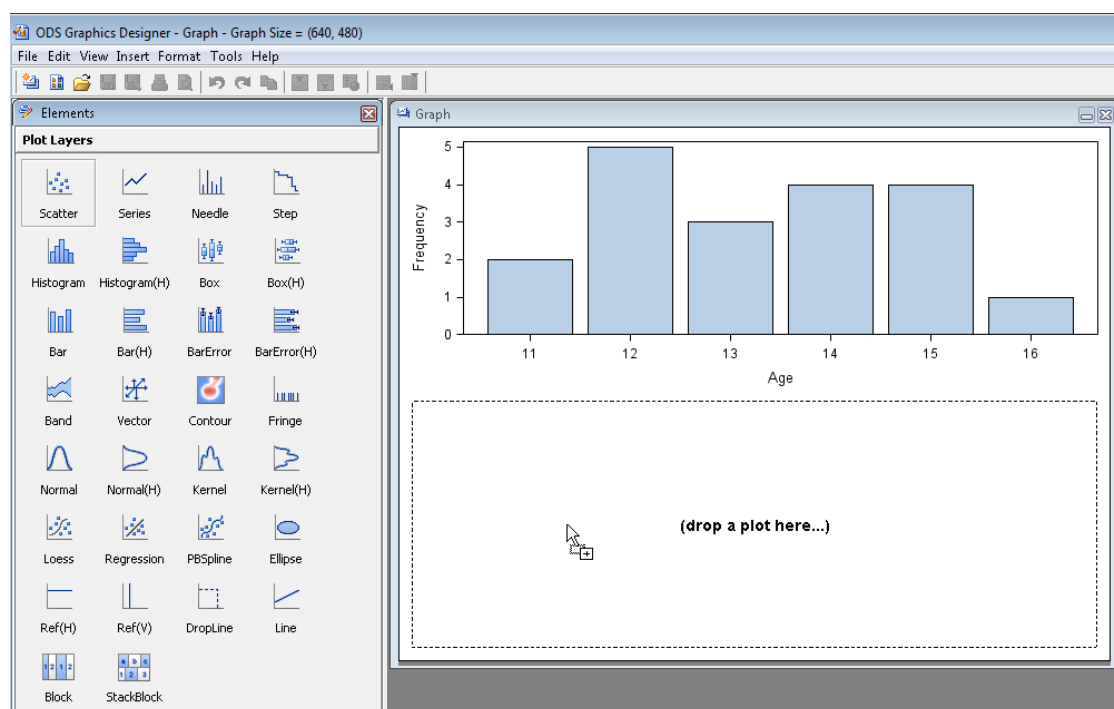
Once a plotting Element has been dragged the SAS data is requested.



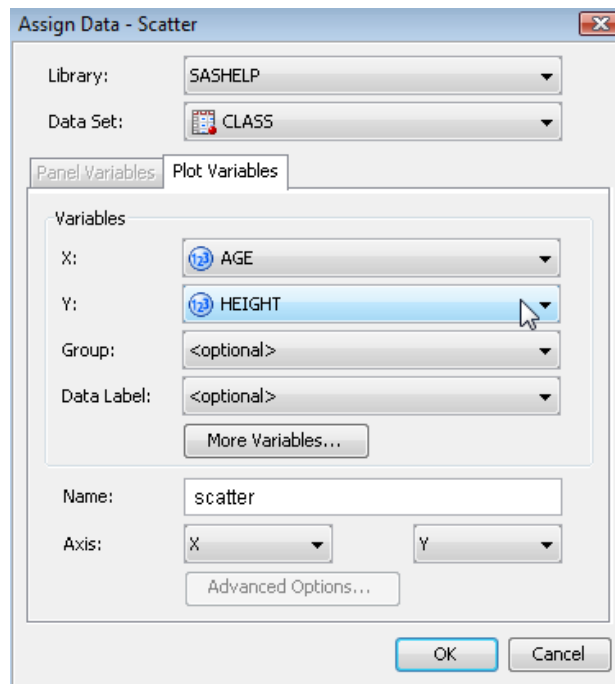
An additional row for another graph on the same page can be created.



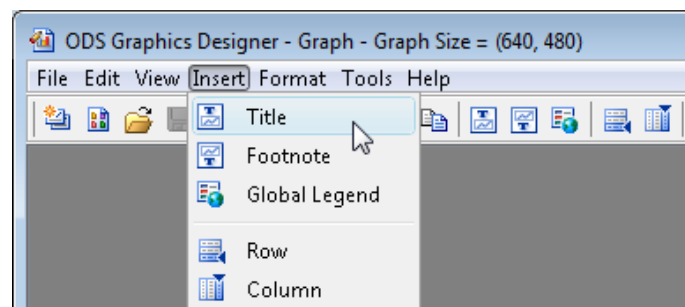
This generates a blank row in the image ready for another graph to be dragged into place.



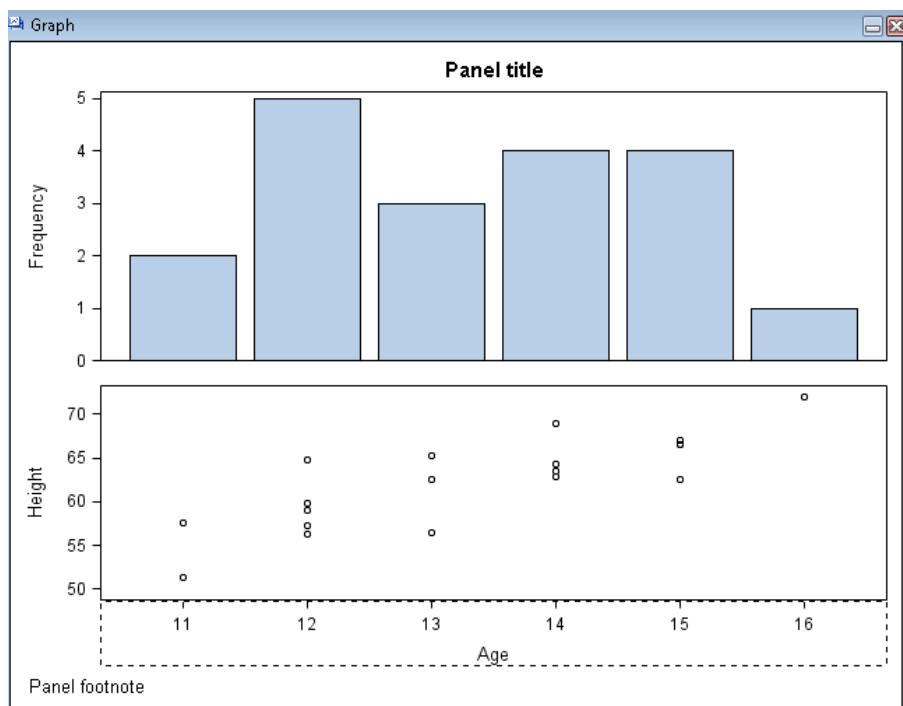
The data for the new graph is automatically requested.



Titles and footnotes can now be added.



The graph is now ready for use,



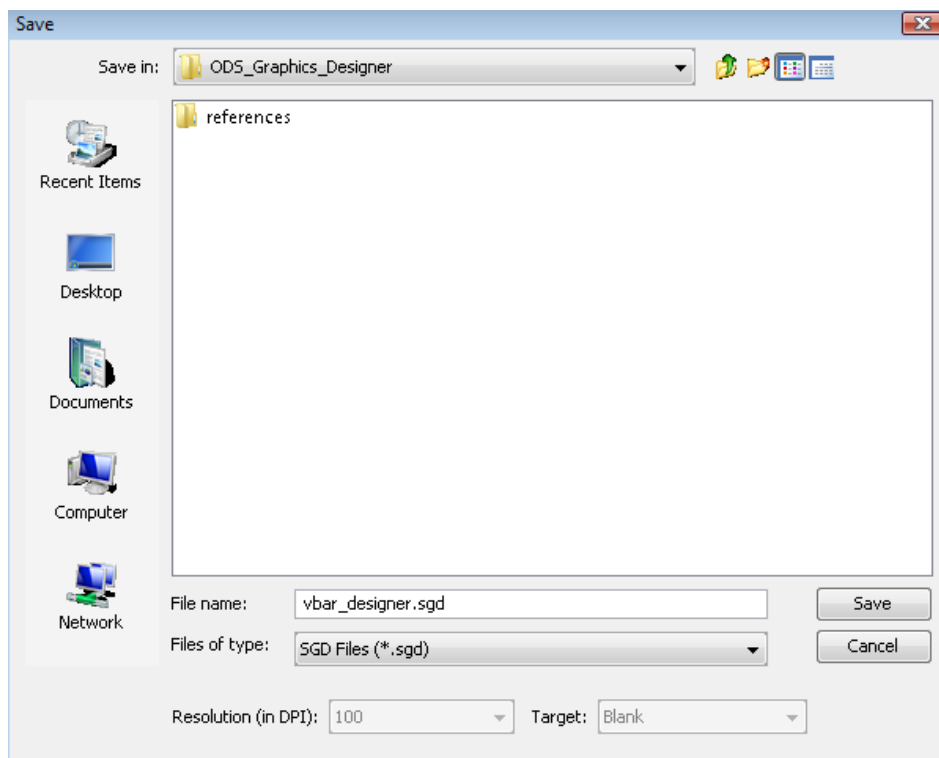
along with the SAS Program for the template.

```
Code - Graph

proc template;
  define statgraph sgdesign;
    dynamic _AGE _AGE2 _HEIGHT;
    begingraph;
    entrytitle _id='title2' halign=center 'Panel title' /;
    entryfootnote _id='footnote' halign=left 'Panel footnote' /;
    layout lattice _id='lattice' / columndatarange=data columngutter=10 rowdatarange=data
    rowgutter=10 rows=2;
      layout overlay _id='overlay' / xaxisopts=(display=(LINE));
        barchart _id='bar' x=_AGE / name='bar' stat=freq;
      endlayout;
      layout overlay _id='overlay2' /;
        scatterplot _id='scatter' x=_AGE2 y=_HEIGHT / name='scatter';
      endlayout;
    endlayout;
  endgraph;
end;
run;
```

SAVING THE TEMPLATE AS A DESIGNER FILE (*.SGD)

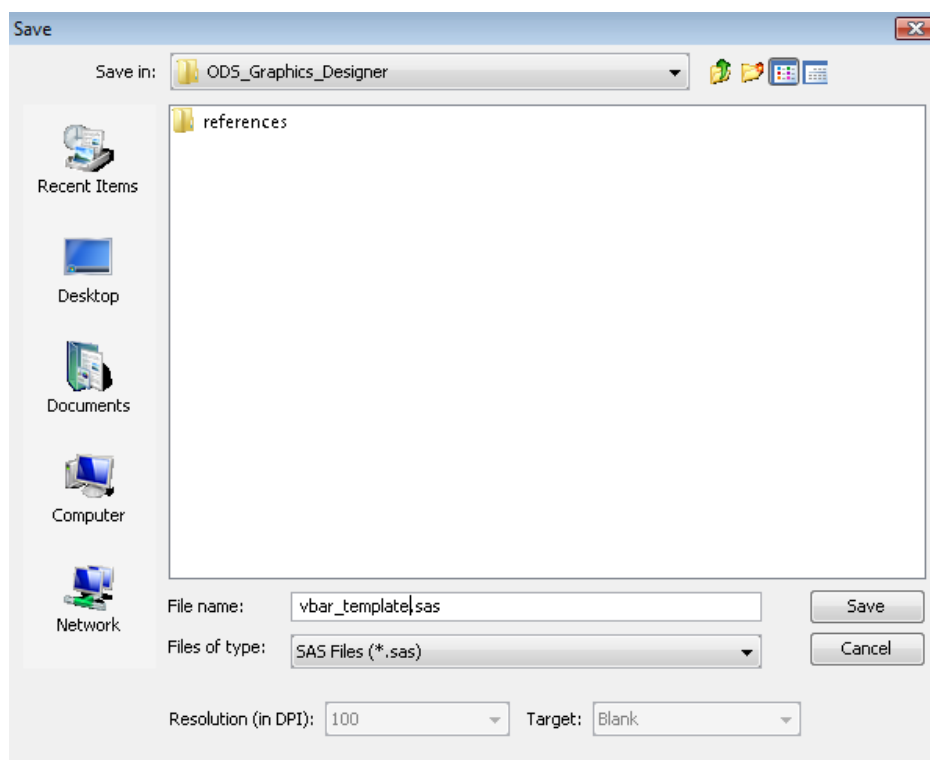
If you click on the Graph Window, then click the File menu option, the template can be saved as a Designer File by clicking Save As...



The template can also be saved to the Gallery by clicking Save to Gallery.

SAVING THE TEMPLATE AS A SAS PROGRAM (*.SAS)

If you click on the Code Window, then click the File menu option, the template can be saved as a SAS Program by clicking Save As...



FURTHER READING

- SAS/GRAPH® 9.2: ODS Graphics Designer Help, support.sas.com/documentation/cdl/en/grstatdesign/61690/HTML/default/titlepage.htm
- GTL (Graphics Template Language) in SAS 9.2, Philip R Holland, PhUSE 2008 (Manchester) www.hollandnumerics.com/SASPAPER.HTM
- Standard Graph Templates, Philip R Holland, PhUSE 2007 (Lisbon) www.hollandnumerics.com/SASPAPER.HTM

CONTACT INFORMATION

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