

Replaying Graphics with PROC GREPLAY

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Abstract

This is a paper that introduces the storage and retrieval of graphs in The SAS System. The audience will be shown how to store graphs in a catalog, how to retrieve the graph and print using PROC GREPLAY, and how to format the stored graph using templates. Interactive and non-interactive use of PROC GREPLAY will be covered.

Storing Graphs

Graphs created in SAS/GRAPH will be stored in a SAS catalog. A SAS catalog is a SAS file that is used to store SAS specific objects, such as graphs, frames, macros, and formats.

1. To create a SAS catalog containing a graph created in SAS/GRAPH, simply include the option `GOUT=<libname>.<catname>` in your PROC Gxxxx statement, where libname is the library name and catname is the catalog name. Please note the following:
2. If libname is not specified, then WORK is assumed.
3. If the GOUT option is not specified, then the graphics output is directed to the catalog WORK.GSEG.

Optional: if you add the statement `NAME='anything'` to your graph statement options, where 'anything' is a descriptive name up to 8 characters long. This will place your plot in the catalog with a descriptive name.

Please note: if the name already exists, the last character receives a '1'.

Example:

```
* Declare library names in UNIX
environment.;
libname sampsio
      '/sas/sas612/samples/graph';
libname graphcat
      '/sas/sas612/sasgraph';

proc summary data=sampsio.giris2 nway;
  var petallen petalwid sepallen
      sepalwid;
  class spec_no;
  output out=iris2
    mean=petallen petalwid sepallen
      sepalwid;
run;

symbol interpol=join;

* Create two plots, put in the
  GRAPHCAT.GIRIS2 catalog.;
* Give the plots names of PETALS and
  SEPALS.;
proc gplot data=iris2 uniform
  gout=graphcat.giris2;
  title 'Petal Length and Width';
  plot petallen*spec_no
      / name='petals';
  plot2 petalwid*spec_no;
run;

  title 'Sepal Length and Width';
  plot sepallen*spec_no
      / name='sepals';
  plot2 sepalwid*spec_no;
run; quit;
```

The catalog GRAPHCAT.GIRIS2 now contains two graphs, named PETALS and SEPALS, respectively.

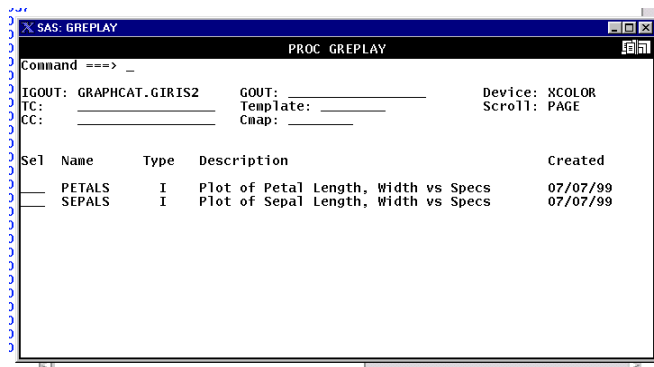
Replaying

You now have graphs stored in SAS catalog. Now what? PROC GREPLAY is the tool to use to replay, reformat, and reuse these graphs. PROC GREPLAY can be used interactively or programmatically.

To replay interactively, submit the following code to pull up the GREPLAY window:

```
proc greplay igout=graphcat.giris2;
run; quit;
```

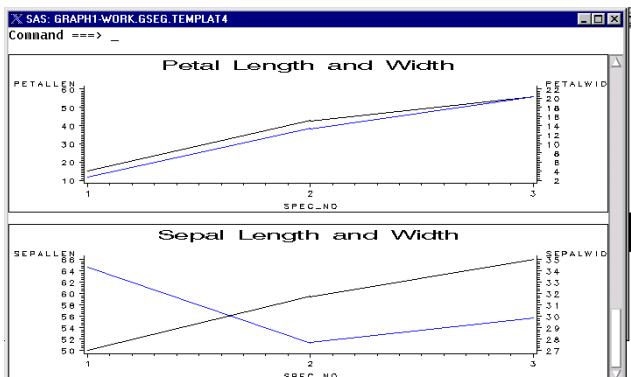
The following GREPLAY window will now appear:



To simply display each graph on a full screen, put an 's' in the 'Sel' column next to each graph's name, then press enter.

However, if you want to place the graphs into a template, then follow these steps:

1. In the field 'TC', you need to type the name of the 'Template Catalog'. Try typing: SASHELP.TEMPCAT
2. In the field 'Template', type the name of the template (found in the specified template catalog) you want to use. Try typing: V2S
3. Finally, under the heading 'Sel', type '1' next to the 'PETALS' graph, and '2' next to the 'SEPALS' graph. Press enter, and watch the graph be replayed.



To run the same graph non-interactively, you need to specify the 'TC', the 'template', and the positions, as above. In addition, however, the 'NOFS' option must be specified so that a GREPLAY window does not appear.

Notice in the following code that the TREPLAY line specifies the how the graphs are displayed on a Template, whereas the REPLAY line will simply replay a graph onto the full screen (similar to using an 's' interactively).

```
proc greplay igout=graphcat.giris2
  tc=sashelp.templt
  template=v2s
  nofs;
```

```
* Replay into TEMPLATE.;
treplay 1:petals 2:sepals;

* Replay into a whole screen.;
replay petals;
replay sepals;
```

```
run; quit;
```

Templates

A template catalog is simply a catalog that contains templates that you can use. A catalog of templates is supplied with The SAS System, and is found in SASHELP.TEMPLT. This catalog contains most of the common templates. To see a list of the templates found in that (or any other) catalog, and a sample of each, try running this code:

```
proc greplay nofs tc=sashelp.templt;
  list tc;
  preview v3s;
run;
quit;
```

'List TC' will print a list of the templates in the specified template catalog to the SAS log. 'Preview v3s' will create a preview of the template named 'v3s'.

TIP #1: use 'Preview all' to create a preview for all templates in the given catalog.

TIP #2: If the template you desire isn't available in that SASHELP.TEMPLT catalog, you can create a new template by using the TDEF line command. See online help or the [SAS/GRAPH Software Reference Volume 2](#) (chapter 36) for more details.

Deleting Old Graphs

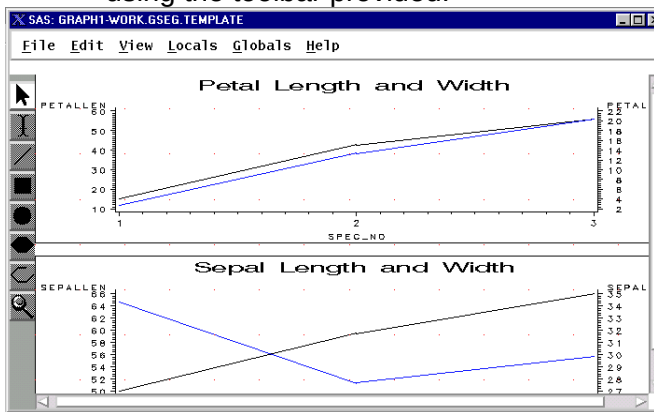
You can use PROC GREPLAY also to delete members of a catalog. Interactively, on the main screen, simply put a 'd' on the 'Sel' line next to the graph name you want to delete. Programmatically, use the following code:

```
proc greplay igout=graphcat.giris2  
  nofs;  
  delete petals sepals;  
quit;
```

Graphics Editor

You can customize your graphs by using the SAS/GRAPH editor, and then save the results into your catalog. Follow these steps:

1. In the 'GRAPH' window, simply type 'EDIT' on the command line.
2. Add annotations, lines, and other objects using the toolbar provided.



3. Go to File...Save As...Graphic to save into a SAS catalog.

What Next?

Here is an exercise you could try on your own to become more familiar with PROC GREPLAY:

1. Create two graphs. Suggestions: Create a vertical bar chart from SAMPSIO.REJECTS containing the sum of rejects for each location. Also, create a pie chart from SAMPSIO.REJECTS containing the sum of rejects for each location.
2. Store those two graphs into a permanent graphics catalog.
3. Replay them in a template that you think looks nice.
4. Add some circles and text where you see appropriate.

5. Try these on one or more operating systems, if possible.

Reference

SAS/GRAPH Software, Reference, Volume 2, Chapter 36 (pages 1191-1258).

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