REPLAY YOUR SAS GRAPHS INTO ONE TEMPLATE
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ABSTRACT

The GREPLAY procedure in SAS/GRAPH® is a wonderful tool for re-displaying graphs previously created. These graphs may be displayed side by side so that the different situations they illustrate may be compared. Or, when no built-in overlay option is available, the graphs may be superimposed so that the eye is tricked into thinking that it is only one graph. In this case, defining only one replay template is the key.

PRODUCE EACH GRAPH

In order to use GREPLAY, you must first produce your graphs and put them into a graphics catalog. Unless you need to re-display your graphs another day, a temporary catalog is a good place to park these graphs. So, make sure that you use the GOUT= option on your GPLOT, GCHART, etc. procedure line to indicate the name of this graphics catalog. With our example below from SAS/QC®, there is another option called GRAPHICS that must also appear on the procedure line to invoke the SAS high-resolution graphics. And, if you do not want to see each component graph displayed at this time, make sure that you include the NODISPLAY option in your GOPTIONS statement prior to the creation of the graph.

In our example here, we are superimposing three graphs from a two-part graph from SAS/QC called a Shewhart control chart. Specifically, we want the upper part of this chart, called an "X bar- chart," which tracks the average of the process variable of interest. The titles are all attached to the first graph in the graphics catalog. See figures 1, 2, and 3 below for each of the separate control charts. The SAS code generated to produce figure 1 minus the titles is reproduced below.

SAS Code Outline:

GOPTIONS DEVICE=PS300 NODISPLAY;
PROC SHEWHART DATA=LOT1IM GRAPHICS
GOUT=TEMPCAT;
XRCHART WEIGHT * TIME = ' ' / NOCONNECT SEPARATE BILEVEL
VAXIS=320 TO 340 BY 5
MU0=329.9 SIGMA0=5.05;
RUN;

Figure 1

REPLAY TIME

Now is the time to invoke the GREPLAY procedure, paint the screen template, and replay each of the graphs. If you have included the NODISPLAY option in the previous GOPTIONS statement in your program, do not forget to put in another GOPTIONS statement with the DISPLAY option in it at this point in your program.

On the GREPLAY procedure line below, GOUT=TEMPCAT identifies that TEMPCAT is the graphics catalog containing the graphs to be replayed. NOFS indicates no full-screen mode, which then requires extra statements to describe the details of what device to output to, the dimensions of the screen template or templates to be used, as well as the graphs to be replayed and where they should be positioned. Specifically, DEVICE=PS300 indicates output for the PS300 postscript device while TDEF outlines the x and y coordinates of the four corner points of the LEFTRTG template. These corner points here describe the entire screen area. The TC statement tells SAS where to construct the catalog for the templates, here another temporary catalog called TEMPTEMP. Then, the TREPLOAY statement instructs SAS to replay...
into screen template #1 (LEFTRGT) each of the "X bar" charts in turn from the catalog, namely graphs 1,3, and 5. Graphs 2, 4, and 6 are the second graphs, the range charts, generated by the Shewhart procedure that we do not wish to see at this time. Consult figure 4 below for the fruits of our labors, followed by the corresponding SAS code.

**Figure 4**

SAS Code:

```
GOPTIONS DEVICE=PS300 DISPLAY;
PROC GREPLAY IGOUT=TEMPCAT NOFS;
DEVICE=PS300;
TC TEMPEMP;
TDEF LEFTRGT
   1/LLX=0 LLY=0
   ULX=0 ULY=100
   URX=100 URY=100
   LRX=100 LRY=0;
TEMPLATE LEFTRGT;
TREPLAY 1:1:3:5;
RUN;
```

CONCLUSION

The GREPLAY procedure in SAS/GRAPH is a wonderful tool for re-displaying graphs previously created. If one replay template is used, graphs can be superimposed on the replay. This technique is well illustrated by an example of overlaying three related "X bar" charts generated by the SAS/QC Shewhart procedure. GREPLAY with only one replay template is the answer since the SAS/QC procedure lacks a built-in overlay option in contrast to most of the SAS/GRAPH procedures.

ACKNOWLEDGMENT

The author wishes to thank Neil Howard for introducing her to the idea of the entire screen as one template.

REFERENCES


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