

GENERATING MULTIPLE GRAPHS FROM SAS/GRAPH® IN A POWERPOINT-COMPATIBLE FORMAT

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ABSTRACT

This tutorial describes how to automatically create multiple graphs in PowerPoint-compatible format.

INTRODUCTION

Trends in clinical data collected on individual patients over time are easy to visualize when the data are plotted. Regenerating such plots manually to examine trends is repetitive and time-consuming.

This code automatically counts the number of individuals in the data set and then generates and saves each graph in a separate CGM-format file. You can then import the graphs, one or more per slide, into PowerPoint and select individual graphs for viewing, printing, or conversion to slides or transparencies.

METHODS

The data for a clinical research project were stored in a SAS file in the form of one record per patient visit. Each patient had a different number of records (patient visits) with the same variables collected at each visit.

SAS/GRAPH software was used to generate the graphs, using CGMMWWC as the device driver and specifying an output catalog in the gplot statement. PROC SQL was used to count the number of entries in the catalog, and then a macro was written that replayed each catalog entry to a separate CGM file. After the files were generated, it was a simple matter to import them as graphics into PowerPoint.

Sample Code

```
/* The following line specifies the device driver. */
  goptions device = CGMMWWC;
/* The following code defines the titles, axes, symbols, */
/* and legends. */
  title1 'Results';
  axis1 label=(angle=90 'Average size');
  axis2 label=('Date of test') order=('01JUL94'd to
'01Feb96'd by quarter);
  axis3 label=(angle=90 'Volume (1/N)');
  symbol1 interpol=join value=square color=b;
  symbol2 interpol=join value=circle color=br;
  symbol3 interpol=join value=_ color=y;
  symbol4 interpol=join value=star color=g;
  symbol5 interpol=join value=diamond color=p;
  symbol6 interpol=join value=hash color=gr;
  symbol7 interpol=join value=plus color=r;
  symbol8 interpol=none value=dot color=bl;
  symbol9 interpol=none value=dot color=r;
  legend1 value=(tick=1 'Substance 1' tick=2 'Substance
2' tick=3 'Substance 3' tick=4 'Substance 4' tick=5
'Substance 6' tick=6 'Substance 7' tick=7
'Substance 8' tick=8 'Date of Treatment' tick=9 'Date
of Treatment Stimulation');

/* The following proc gplot prepares the plots and places */
/* them in a catalog called slides. SAS® names each plot */
/* with a default name beginning with "gplot" and then */
/* "gplot1" and increasing through "gplot{n-1}", where n is */
/* the number of graphs in the catalog. */
  proc gplot data=mydata gout=slides uniform;
```

```
format date date7.;
plot (sub1 sub2 sub3 sub4 sub5 sub6 sub7 sub8
      sub9)*date trt*date trtstim*date /
      haxis=axis2 vaxis=axis1 overlay legend=legend1;
/* This statement prepares separate plots for each patient */
/* based on medical record number. */
  by mrno;
  run; quit;

/* The following replays the first graph, "gplot," into a cgm */
/* file called "slide0.cgm" */
  goptions gsfname=gsasfile gsfmde=replace;
  filename gsasfile "q:\sasuser\slide0.cgm";
  proc greplay nofs;
  igout sasuser.slides;
  replay gplot;
  run; quit;

/* The following code counts the number of graphs in the */
/* SLIDES catalog */
  proc sql;
  select count(*) into :ngraph from dictionary.catalogs
  where libname="WORK" and memname="SLIDES";

/* The following macro generates a cgm file from each */
/* graph in the catalog, using as a maximum number the */
/* count generated from the sql code above. */
/* It begins with slide1 which is generated from catalog */
/* entry "gplot1," since slide0.cgm has already been */
/* generated above from catalog entry "gplot." */
  %macro replay;
  %do i=1 %to &ngraph-1;
  filename gsasfile "q:\sasuser\slide&i..cgm";
  proc greplay nofs;
  igout sasuser.melslid1;
  replay gplot&i;
  run; quit;
  %end;
  %mend;
  %replay
  goptions reset=all;
  run;
```

CONCLUSION

For situations in which data are changing frequently and for which you need to view a graphical "snapshot" of the data on a regular basis, you can save much time by using this code to automate the graph production process.

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