For this week you need to read the following material:

+LSB 8 (SAS Graphics)

+LSB 6.14 (Reshaping data in SAS)

* 1. Extra reading: SASHelp\_MarkersAndColors.doc, TransposeAndAlternatives046-2007.pdf, Graphs\_ProducingExcellent\_butSasGplot2009.pdf, Sgplot\_154\_2010.pdf, SgscatterExs-2010-68.pdf, SggraphicsEnhancements2011-095.pdf,SASHelp\_\*.doc files, TransposeAndAlternatives046-2007.pdf

Go through the code files: Wk5\_part1.sas (SAS graphics) and Wk5\_part2.sas(SAS reshape data).

The data files are included.

Topics this week

This week’s main topic: *SAS ODS Graphics*. SAS has 3 sets of PROC’s for graphs.

1. The first set is very old, in which plots were produced as text (PROC PLOT is an example).
2. The second set, traditional SAS/Graph, uses high-resolution graphs, but these are still quite old (PROC GPLOT is an example). But these are still in use.
3. The third set, ODS Graphics, is based on SAS ODS, or output delivery system (PROC SGPLOT is an example, where “SG” stands for *Statistical Graphics*). For our purposes, the “ODS” part of ODS graphics will not be considered much. Instead, we will focus on the graphs themselves.
4. Reshaping data: PROC TRANSPOSE.
5. Aggregating (summarizing data); PROC MEANS and TABULATE examples.
6. Toy example: balance data.
7. Real examples: Pew data on religion and income; Weather data (small example). Some simple uses of PROC SGPLOT.
8. Other functions: LOWCASE(case, for strings; and UPCASE), CEIL (and FLOOR).
9. Reshaping data: DATA step and ARRAY statement.
10. PROC sgplot
    1. scatter x= y=
       1. xaxis type=log
       2. yaxis values=(500 1000 2000)
       3. xaxis min= max=
       4. /group=z grouporder= ascending
    2. histogram x
       1. bionstart, binwidth, boundary
       2. nofill
       3. scale=count
    3. needle x= y=
       1. / datalabel= datalabelattrs=(color= )
    4. vbar x
    5. vbar x
       1. /response= stat=
    6. vbox x
    7. vbox x;
       1. category = y
11. PROC sgscatter
    1. plot y1\*x1 (y2 y3 y4)\*x2
    2. matrix x1 x2 x3 x4
       1. / diagonal=(histogram kernel)
12. ods html5 style=

(For SAS studio)

1. Reshaping data with PROC TRANSPOSE;
2. ARRAY statement for reshaping data;