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NOTE: Copyright (c) 2002-2012 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software 9.4 (TS1M3)
      Licensed to UNIVERSITY OF ARIZONA - SFA T&R, Site 70083307.
NOTE: This session is executing on the X64_8PRO  platform.



NOTE: Updated analytical products:

      SAS/STAT 14.1
      SAS/ETS 14.1
      SAS/OR 14.1
      SAS/IML 14.1
      SAS/QC 14.1

NOTE: Additional host information:

 X64_8PRO WIN 6.2.9200  Workstation

NOTE: SAS initialization used:
      real time           1.06 seconds
      cpu time            0.90 seconds

1    /* ABS */
2
3    libname in "C:\Users\Sugiyama\Documents\UA Teaching\Fall 2016\Econ 453\Class code";
NOTE: Libref IN was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Users\Sugiyama\Documents\UA Teaching\Fall 2016\Econ 453\Class code
4
5    %include "C:\Users\Sugiyama\Documents\UA Teaching\Fall 2016\Econ 453\Class
code\pisaformatcode.sas";
NOTE: Format $CNTF has been output.
NOTE: Format $STRATUMF has been output.
NOTE: Format $SUBNATIOF has been output.
NOTE: Format $NCF has been output.
NOTE: Format $LANGF has been output.
NOTE: Format $PROGNF has been output.
NOTE: Format $OCODF has been output.
NOTE: Format OECDF has been output.
NOTE: Format ST01Q01F has been output.
NOTE: Format ST02Q01F has been output.
NOTE: Format $ST03Q01F has been output.
NOTE: Format $ST03Q02F has been output.
NOTE: Format ST04Q01F has been output.
NOTE: Format ST05Q01F has been output.
NOTE: Format ST06Q01F has been output.
NOTE: Format ST07Q01F has been output.
NOTE: Format ST07Q02F has been output.
NOTE: Format ST07Q03F has been output.
NOTE: Format ST08Q01F has been output.
NOTE: Format ST09Q01F has been output.
NOTE: Format ST115Q01F has been output.
NOTE: Format ST11Q01F has been output.
NOTE: Format ST11Q02F has been output.
NOTE: Format ST11Q03F has been output.
NOTE: Format ST11Q04F has been output.
NOTE: Format ST11Q05F has been output.
NOTE: Format ST11Q06F has been output.
NOTE: Format ST13Q01F has been output.
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NOTE: Format ST14Q01F has been output.
NOTE: Format ST14Q02F has been output.
NOTE: Format ST14Q03F has been output.
NOTE: Format ST14Q04F has been output.
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NOTE: Format ST17Q01F has been output.
NOTE: Format ST18Q01F has been output.
NOTE: Format ST18Q02F has been output.
NOTE: Format ST18Q03F has been output.
NOTE: Format ST18Q04F has been output.
NOTE: Format ST19Q01F has been output.
NOTE: Format ST20Q01F has been output.
NOTE: Format ST20Q02F has been output.
NOTE: Format ST20Q03F has been output.
NOTE: Format ST21Q01F has been output.
NOTE: Format ST22Q01F has been output.
NOTE: Format ST23Q01F has been output.
NOTE: Format ST23Q02F has been output.
NOTE: Format ST23Q03F has been output.
NOTE: Format ST23Q04F has been output.
NOTE: Format ST23Q05F has been output.
NOTE: Format ST23Q06F has been output.
NOTE: Format ST23Q07F has been output.
NOTE: Format ST23Q08F has been output.
NOTE: Format ST24Q01F has been output.
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NOTE: Format ST24Q03F has been output.
NOTE: Format ST25Q01F has been output.
NOTE: Format ST26Q01F has been output.
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NOTE: Format ST26Q11F has been output.
NOTE: Format ST26Q12F has been output.
NOTE: Format ST26Q13F has been output.
NOTE: Format ST26Q14F has been output.
NOTE: Format $ST26Q15F has been output.
NOTE: Format $ST26Q16F has been output.
NOTE: Format $ST26Q17F has been output.
NOTE: Format ST27Q01F has been output.
NOTE: Format ST27Q02F has been output.
NOTE: Format ST27Q03F has been output.
NOTE: Format ST27Q04F has been output.
NOTE: Format ST27Q05F has been output.
NOTE: Format ST28Q01F has been output.
NOTE: Format ST29Q01F has been output.
NOTE: Format ST29Q02F has been output.
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NOTE: Format ST35Q01F has been output.
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NOTE: Format ST35Q02F has been output.
NOTE: Format ST35Q03F has been output.
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NOTE: Format ST37Q06F has been output.
NOTE: Format ST37Q07F has been output.
NOTE: Format ST37Q08F has been output.
NOTE: Format ST42Q01F has been output.
NOTE: Format ST42Q02F has been output.
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NOTE: Format ST43Q01F has been output.
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NOTE: Format ST49Q09F has been output.
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NOTE: Format ST53Q04F has been output.
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NOTE: Format ST57Q02F has been output.
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NOTE: Format ST57Q06F has been output.
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NOTE: Format ST62Q19F has been output.
NOTE: Format ST69Q01F has been output.
NOTE: Format ST69Q02F has been output.
NOTE: Format ST69Q03F has been output.
NOTE: Format ST70Q01F has been output.
NOTE: Format ST70Q02F has been output.
NOTE: Format ST70Q03F has been output.
NOTE: Format ST71Q01F has been output.
NOTE: Format ST72Q01F has been output.
NOTE: Format ST73Q01F has been output.
NOTE: Format ST73Q02F has been output.
NOTE: Format ST74Q01F has been output.
NOTE: Format ST74Q02F has been output.
NOTE: Format ST75Q01F has been output.
NOTE: Format ST75Q02F has been output.
NOTE: Format ST76Q01F has been output.
NOTE: Format ST76Q02F has been output.
NOTE: Format ST77Q01F has been output.
NOTE: Format ST77Q02F has been output.
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NOTE: Format ST79Q04F has been output.
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NOTE: Format ST81Q02F has been output.
NOTE: Format ST81Q03F has been output.
NOTE: Format ST81Q04F has been output.
NOTE: Format ST81Q05F has been output.
NOTE: Format ST82Q01F has been output.
NOTE: Format ST82Q02F has been output.
NOTE: Format ST82Q03F has been output.
NOTE: Format ST83Q01F has been output.
NOTE: Format ST83Q02F has been output.
NOTE: Format ST83Q03F has been output.
NOTE: Format ST83Q04F has been output.
NOTE: Format ST84Q01F has been output.
NOTE: Format ST84Q02F has been output.
NOTE: Format ST84Q03F has been output.
NOTE: Format ST85Q01F has been output.
NOTE: Format ST85Q02F has been output.
NOTE: Format ST85Q03F has been output.
NOTE: Format ST85Q04F has been output.
NOTE: Format ST86Q01F has been output.
NOTE: Format ST86Q02F has been output.
NOTE: Format ST86Q03F has been output.
NOTE: Format ST86Q04F has been output.
NOTE: Format ST86Q05F has been output.
NOTE: Format ST87Q01F has been output.
NOTE: Format ST87Q02F has been output.
NOTE: Format ST87Q03F has been output.
NOTE: Format ST87Q04F has been output.
NOTE: Format ST87Q05F has been output.
NOTE: Format ST87Q06F has been output.
NOTE: Format ST87Q07F has been output.
NOTE: Format ST87Q08F has been output.
NOTE: Format ST87Q09F has been output.
NOTE: Format ST88Q01F has been output.
NOTE: Format ST88Q02F has been output.
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NOTE: Format ST88Q04F has been output.
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NOTE: Format ST89Q03F has been output.
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NOTE: Format ST89Q05F has been output.
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NOTE: Format ST91Q01F has been output.
NOTE: Format ST91Q02F has been output.
NOTE: Format ST91Q03F has been output.
NOTE: Format ST91Q04F has been output.
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NOTE: Format ST93Q01F has been output.
NOTE: Format ST93Q03F has been output.
NOTE: Format ST93Q04F has been output.
NOTE: Format ST93Q06F has been output.
NOTE: Format ST93Q07F has been output.
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NOTE: Format ST94Q06F has been output.
NOTE: Format ST94Q09F has been output.
NOTE: Format ST94Q10F has been output.
NOTE: Format ST94Q14F has been output.
NOTE: Format ST96Q01F has been output.
NOTE: Format ST96Q02F has been output.
NOTE: Format ST96Q03F has been output.
NOTE: Format ST96Q05F has been output.
NOTE: Format ST101Q01F has been output.
NOTE: Format ST101Q02F has been output.
NOTE: Format ST101Q03F has been output.
NOTE: Format ST101Q05F has been output.
NOTE: Format ST104Q01F has been output.
NOTE: Format ST104Q04F has been output.
NOTE: Format ST104Q05F has been output.
NOTE: Format ST104Q06F has been output.
NOTE: Format IC01Q01F has been output.
NOTE: Format IC01Q02F has been output.
NOTE: Format IC01Q03F has been output.
NOTE: Format IC01Q04F has been output.
NOTE: Format IC01Q05F has been output.
NOTE: Format IC01Q06F has been output.
NOTE: Format IC01Q07F has been output.
NOTE: Format IC01Q08F has been output.
NOTE: Format IC01Q09F has been output.
NOTE: Format IC01Q10F has been output.
NOTE: Format IC01Q11F has been output.
NOTE: Format IC02Q01F has been output.
NOTE: Format IC02Q02F has been output.
NOTE: Format IC02Q03F has been output.
NOTE: Format IC02Q04F has been output.
NOTE: Format IC02Q05F has been output.
NOTE: Format IC02Q06F has been output.
NOTE: Format IC02Q07F has been output.
NOTE: Format IC03Q01F has been output.
NOTE: Format IC04Q01F has been output.
NOTE: Format $IC05Q01F has been output.
NOTE: Format $IC06Q01F has been output.
NOTE: Format $IC07Q01F has been output.
NOTE: Format IC08Q01F has been output.
NOTE: Format IC08Q02F has been output.
NOTE: Format IC08Q03F has been output.
NOTE: Format IC08Q04F has been output.
NOTE: Format IC08Q05F has been output.
NOTE: Format IC08Q06F has been output.
NOTE: Format IC08Q07F has been output.
NOTE: Format IC08Q08F has been output.
NOTE: Format IC08Q09F has been output.
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NOTE: Format IC08Q11F has been output.
NOTE: Format IC09Q01F has been output.
NOTE: Format IC09Q02F has been output.
NOTE: Format IC09Q03F has been output.
NOTE: Format IC09Q04F has been output.
NOTE: Format IC09Q05F has been output.
NOTE: Format IC09Q06F has been output.
NOTE: Format IC09Q07F has been output.
NOTE: Format IC10Q01F has been output.
NOTE: Format IC10Q02F has been output.
NOTE: Format IC10Q03F has been output.
NOTE: Format IC10Q04F has been output.
NOTE: Format IC10Q05F has been output.
NOTE: Format IC10Q06F has been output.
NOTE: Format IC10Q07F has been output.
NOTE: Format IC10Q08F has been output.
NOTE: Format IC10Q09F has been output.
NOTE: Format IC11Q01F has been output.
NOTE: Format IC11Q02F has been output.
NOTE: Format IC11Q03F has been output.
NOTE: Format IC11Q04F has been output.
NOTE: Format IC11Q05F has been output.
NOTE: Format IC11Q06F has been output.
NOTE: Format IC11Q07F has been output.
NOTE: Format IC22Q01F has been output.
NOTE: Format IC22Q02F has been output.
NOTE: Format IC22Q04F has been output.
NOTE: Format IC22Q06F has been output.
NOTE: Format IC22Q07F has been output.
NOTE: Format IC22Q08F has been output.
NOTE: Format EC01Q01F has been output.
NOTE: Format EC02Q01F has been output.
NOTE: Format EC03Q01F has been output.
NOTE: Format EC03Q02F has been output.
NOTE: Format EC03Q03F has been output.
NOTE: Format EC03Q04F has been output.
NOTE: Format EC03Q05F has been output.
NOTE: Format EC03Q06F has been output.
NOTE: Format EC03Q07F has been output.
NOTE: Format EC03Q08F has been output.
NOTE: Format EC03Q09F has been output.
NOTE: Format EC03Q10F has been output.
NOTE: Format EC04Q01AF has been output.
NOTE: Format EC04Q01BF has been output.
NOTE: Format EC04Q01CF has been output.
NOTE: Format EC04Q02AF has been output.
NOTE: Format EC04Q02BF has been output.
NOTE: Format EC04Q02CF has been output.
NOTE: Format EC04Q03AF has been output.
NOTE: Format EC04Q03BF has been output.
NOTE: Format EC04Q03CF has been output.
NOTE: Format EC04Q04AF has been output.
NOTE: Format EC04Q04BF has been output.
NOTE: Format EC04Q04CF has been output.
NOTE: Format EC04Q05AF has been output.
NOTE: Format EC04Q05BF has been output.
NOTE: Format EC04Q05CF has been output.
NOTE: Format EC04Q06AF has been output.
NOTE: Format EC04Q06BF has been output.
NOTE: Format EC04Q06CF has been output.
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NOTE: Format EC05Q01F has been output.
NOTE: Format EC06Q01F has been output.
NOTE: Format EC07Q01F has been output.
NOTE: Format EC07Q02F has been output.
NOTE: Format EC07Q03F has been output.
NOTE: Format EC07Q04F has been output.
NOTE: Format EC07Q05F has been output.
NOTE: Format EC08Q01F has been output.
NOTE: Format EC08Q02F has been output.
NOTE: Format EC08Q03F has been output.
NOTE: Format EC08Q04F has been output.
NOTE: Format EC09Q03F has been output.
NOTE: Format EC11Q02F has been output.
NOTE: Format EC11Q03F has been output.
NOTE: Format EC10Q01F has been output.
NOTE: Format EC12Q01F has been output.
NOTE: Format CLCUSE1F has been output.
NOTE: Format $CLCUSE301F has been output.
NOTE: Format $CLCUSE302F has been output.
NOTE: Format $DEFFORTF has been output.
NOTE: Format QUESTIDF has been output.
NOTE: Format BOOKIDF has been output.
NOTE: Format EASYF has been output.
NOTE: Format AGEF has been output.
NOTE: Format GRADEF has been output.
NOTE: Format ANXMATF has been output.
NOTE: Format ATSCHLF has been output.
NOTE: Format ATTLNACTF has been output.
NOTE: Format BELONGF has been output.
NOTE: Format BFMJ2F has been output.
NOTE: Format BMMJ1F has been output.
NOTE: Format CLSMANF has been output.
NOTE: Format COGACTF has been output.
NOTE: Format CULTDISTF has been output.
NOTE: Format CULTPOSF has been output.
NOTE: Format DISCLIMAF has been output.
NOTE: Format ENTUSEF has been output.
NOTE: Format ESCSF has been output.
NOTE: Format EXAPPLMF has been output.
NOTE: Format EXPUREMF has been output.
NOTE: Format FAILMATF has been output.
NOTE: Format FAMCONF has been output.
NOTE: Format FAMCONCF has been output.
NOTE: Format FAMSTRUCF has been output.
NOTE: Format FISCEDF has been output.
NOTE: Format HEDRESF has been output.
NOTE: Format HERITCULF has been output.
NOTE: Format HISCEDF has been output.
NOTE: Format HISEIF has been output.
NOTE: Format HOMEPOSF has been output.
NOTE: Format HOMSCHF has been output.
NOTE: Format HOSTCULF has been output.
NOTE: Format ICTATTNEGF has been output.
NOTE: Format ICTATTPOSF has been output.
NOTE: Format ICTHOMEF has been output.
NOTE: Format ICTSCHF has been output.
NOTE: Format IMMIGF has been output.
NOTE: Format INFOCARF has been output.
NOTE: Format INFOJOB1F has been output.
NOTE: Format INFOJOB2F has been output.
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NOTE: Format INSTMOTF has been output.
NOTE: Format INTMATF has been output.
NOTE: Format ISCEDLF has been output.
NOTE: Format ISCEDDF has been output.
NOTE: Format ISCEDOF has been output.
NOTE: Format LANGCOMMF has been output.
NOTE: Format LANGRPPDF has been output.
NOTE: Format LMINSF has been output.
NOTE: Format MATBEHF has been output.
NOTE: Format MATHEFFF has been output.
NOTE: Format MATINTFCF has been output.
NOTE: Format MATWKETHF has been output.
NOTE: Format MISCEDF has been output.
NOTE: Format MMINSF has been output.
NOTE: Format MTSUPF has been output.
NOTE: Format OPENPSF has been output.
NOTE: Format OUTHOURSF has been output.
NOTE: Format PAREDF has been output.
NOTE: Format PERSEVF has been output.
NOTE: Format REPEATF has been output.
NOTE: Format SCMATF has been output.
NOTE: Format SMINSF has been output.
NOTE: Format STUDRELF has been output.
NOTE: Format SUBNORMF has been output.
NOTE: Format TCHBEHFAF has been output.
NOTE: Format TCHBEHSOF has been output.
NOTE: Format TCHBEHTDF has been output.
NOTE: Format TEACHSUPF has been output.
NOTE: Format TIMEINTF has been output.
NOTE: Format USEMATHF has been output.
NOTE: Format USESCHF has been output.
NOTE: Format WEALTHF has been output.
NOTE: Format INDF has been output.
NOTE: Format WVARSTRRF has been output.
NOTE: Format VAR_UNITF has been output.
NOTE: Format ANCATSCHLF has been output.
NOTE: Format ANCATTLNACTF has been output.
NOTE: Format ANCBELONGF has been output.
NOTE: Format ANCCLSMANF has been output.
NOTE: Format ANCCOGACTF has been output.
NOTE: Format ANCINSTMOTF has been output.
NOTE: Format ANCINTMATF has been output.
NOTE: Format ANCMATWKETHF has been output.
NOTE: Format ANCMTSUPF has been output.
NOTE: Format ANCSCMATF has been output.
NOTE: Format ANCSTUDRELF has been output.
NOTE: Format ANCSUBNORMF has been output.

NOTE: PROCEDURE FORMAT used (Total process time):
      real time           0.23 seconds
      cpu time            0.20 seconds


7718
7719
7720  /* Format for CNT variable
7721
7722  PROC Format;
7723  value $CNTF
7724           "AUS" = "Australia"
```

```
7725          "CAN" = "Canada"
7726          "IRL" = "Ireland"
7727          "NZL" = "New Zealand"
7728          "GBR" = "United Kingdom"
7729          "USA" = "United States of America;
7730  ;
7731  run;
7732
7733  */
7734
7735  title1;
7736  options pageno = 1;
7737  data two;
7738      set in.pisa;
7739      if cnt in ("USA", "CAN", "AUS", "GBR", "NZL", "IRL");
7740      keep cnt age pv1math pv1scie pv1read;
7741  run;

NOTE: There were 480174 observations read from the data set IN.PISA.
NOTE: The data set WORK.TWO has 62969 observations and 5 variables.
NOTE: DATA statement used (Total process time):
      real time           1.05 seconds
      cpu time            1.06 seconds


7742
7743  ods pdf file="sgplot problem.pdf";
NOTE: Writing ODS PDF output to DISK destination "C:\Users\Sugiyama\sgplot problem.pdf", printer "PDF".
7744
7745  proc contents data=two;
NOTE: Writing HTML Body file: sashtml.htm
7746  run;

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time           0.43 seconds
      cpu time            0.40 seconds


7747
7748  proc print data=two(obs=10);
7749  run;

NOTE: There were 10 observations read from the data set WORK.TWO.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


7750
7751  proc print data=two(obs=10);
7752      format _all_;
7753  run;

NOTE: There were 10 observations read from the data set WORK.TWO.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.03 seconds
      cpu time            0.03 seconds


7754
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```
7755  proc means data=two;
7756  run;

NOTE: There were 62969 observations read from the data set WORK.TWO.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.07 seconds
      cpu time            0.15 seconds


7757
7758  proc freq data=two;
7759      table cnt;
7760  run;

NOTE: There were 62969 observations read from the data set WORK.TWO.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


7761
7762  proc means data=two mean;
7763      var pv1math;
7764      class cnt;
7765  run;

NOTE: There were 62969 observations read from the data set WORK.TWO.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.07 seconds
      cpu time            0.09 seconds


7766
7767  /**** gchart *****/
7768  title1 "SAS/GRAPH VBAR -- Average Math Score by Country";
7769  proc gchart data=two;
7770      vbar cnt / sumvar=pv1math type=mean;
7771  run;

NOTE: 21839 bytes written to C:\Users\Sugiyama\AppData\Local\Temp\SAS Temporary Files\_TD540_SUGIYAMA-
PC_\gchart.png.
7772
7773  title1 "SAS/GRAPH VBAR -- Descending Average Math Score by Country";

NOTE: There were 62969 observations read from the data set WORK.TWO.
NOTE: PROCEDURE GCHART used (Total process time):
      real time           0.82 seconds
      cpu time            0.65 seconds


7774  proc gchart data=two;
7775      vbar cnt / sumvar=pv1math type=mean descending;
7776  run;

NOTE: 22587 bytes written to C:\Users\Sugiyama\AppData\Local\Temp\SAS Temporary Files\_TD540_SUGIYAMA-
PC_\gchart1.png.
7777
7778  /* SGPLOT */
7779
7780  /* This works */
```

```
7781  title1 "Proc SGPLOT -- Country Observation Count";

NOTE: There were 62969 observations read from the data set WORK.TWO.
NOTE: PROCEDURE GCHART used (Total process time):
      real time           0.26 seconds
      cpu time            0.24 seconds


7782  proc sgplot data=two;
7783      vbar cnt ;
7784  run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.96 seconds
      cpu time            0.42 seconds

NOTE: Listing image output written to C:\Users\Sugiyama\SGPlot1.png.
NOTE: There were 62969 observations read from the data set WORK.TWO.

7785
7786  /* This works */
7787  title1 "Proc SGPLOT -- Average Math Score by Country";
7788  proc sgplot data=two;
7789      vbar cnt / response=pv1math stat=mean;
7790  run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.28 seconds
      cpu time            0.07 seconds

NOTE: Listing image output written to C:\Users\Sugiyama\SGPlot3.png.
NOTE: There were 62969 observations read from the data set WORK.TWO.

7791
7792  /* This is supposed to work, but doesn't */
7793  /* Lose the format on cnt variable */
7794  /* US and UK bars are overlayed */
7795  /* Get an error message in log */
7796  title1 "Proc SGPLOT -- Descending Average Math Score by Country--error";
7797  proc sgplot data=two ;
7798      vbar cnt / response=pv1math stat=mean categoryorder=respdesc;
7799  run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.40 seconds
      cpu time            0.09 seconds

WARNING: The data for a BARCHARTPARM statement are not appropriate. The BARCHARTPARM statement expects
summarized data. The bar chart might not be
         drawn correctly.
WARNING: The data for a BARCHARTPARM statement are not appropriate. The BARCHARTPARM statement expects
summarized data. The bar chart might not be
         drawn correctly.
NOTE: Listing image output written to C:\Users\Sugiyama\SGPlot5.png.
WARNING: The data for a BARCHARTPARM statement are not appropriate. The BARCHARTPARM statement expects
summarized data. The bar chart might not be
         drawn correctly.
NOTE: There were 62969 observations read from the data set WORK.TWO.

7800
```

```
7801  /* This works, if I don't use the format */
7802  /* No error message in log */
7803  title1 "Proc SGPLOT -- Descending Average Math Score by Country--remove format for CNT";
7804  proc sgplot data=two ;
7805      vbar cnt / response=pv1math stat=mean categoryorder=respdesc;
7806      format cnt;
7807  run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.23 seconds
      cpu time            0.06 seconds

NOTE: Listing image output written to C:\Users\Sugiyama\SGPlot7.png.
NOTE: There were 62969 observations read from the data set WORK.TWO.

7808
7809  /* This works, but I use format statement that I shouln't need to do */
7810  /* No error message in log */
7811  title1 "Proc SGPLOT -- Descending Average Math Score by Country--format statement for CNT SCNTF";
7812  proc sgplot data=two ;
7813      vbar cnt / response=pv1math stat=mean categoryorder=respdesc;
7814      format cnt $cntf.;
7815  run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.27 seconds
      cpu time            0.06 seconds

NOTE: Listing image output written to C:\Users\Sugiyama\SGPlot9.png.
NOTE: There were 62969 observations read from the data set WORK.TWO.

7816
7817
7818  ods pdf close;
NOTE: ODS PDF printed 14 pages to C:\Users\Sugiyama\sgplot problem.pdf.
```