Program Summary - samplemacro.sas

Execution Environment

Author:	nkunaparaju0
File:	/home/nkunaparaju0/WorldBank/samplemacro.sas
SAS Platform:	Linux LIN X64 3.10.0-327.3.1.el7.x86_64
SAS Host:	ODAWS04.ODA.SAS.COM
SAS Version:	9.04.01M3P06242015
SAS Locale:	en_US
Submission Time:	4/26/2016, 12:18:29 PM
Browser Host:	C-73-80-10-120.HSD1.NJ.COMCAST.NET
User Agent:	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_5) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/49.0.2623.112 Safari/537.36
Application Server:	ODAMID.ODA.SAS.COM

Code: samplemacro.sas

```
options validvarname=v7;
 %let path=/home/nkunaparaju0/PastProject;
%let libraryname = Project;
%let Indicator = EG.ELC.HYRO.ZS;

/*Indicator Code*/
%let basecountry = Argent;


/*Base Country*/
%let aggcountries = ('Brazil', 'Peru', 'Chile' );

/*Aggregate Group of Countries*/
%let numofcountries = 3;

/*Number of aggregate group countries*/
%let startyear = 2004;

/*start year of the time frame selected*/
%let endyear = 2014;

/*end year of the time frame selected*/
%let Aggrdataset = Agg;

/*Name of the agg group dataset*/
%let finaldataset = Internet_Users;

/*Name of the final dataset which would be used for analysis*/
%let title_name = '%Hydro Electricity Production';

/*Title on the report*/
%let graphtitle1 = &basecountry vs Aggregate Group Mean;

/*Title on the Base Country vs Agg Group Mean comparision report*/
%let graphtitle2 = &basecountry vs Aggregate Group Minimum & Maximum;

/*Title on the Base Country vs Agg Group Min and Max comparision report*/
 %let basectry = %substr(&basecountry, 1, 8);

/*Selecting the first 8 characters in our base country name*/
libname &libraryname "&path";


data dummy_ds(keep=country);
        do i=1 to &numofcountries;
                array re{&numofcountries} $ 10 _temporary_ &aggcountries;
                country=re{i};
                output;
        end;
        label country=' Aggregate Group ';
run;

proc print data=dummy_ds label;
run;



proc sql noprint;
        select country into :ctries1-:ctries&numofcountries from dummy_ds;
quit;
```

```
run;
options mprint;

%macro exec;
        %assignlib;
        %dscreation(&basectry , , );
        %printdata(work, &basectry, &title_name, &basecountry);
        %do i=1 %to &numofcountries;
                %dscreation(&Aggrdataset, %substr(&&ctries&i, 1, 8), &i);
                 %end;
                run;
%removeunwanted;
 %printdata(work,&Aggrdataset,&title_name,Aggregate Group);
 %mean_calc(&Aggrdataset);
 %merging;
%printdata(work,combined,&title_name,&basecountry merged with Aggregate Group);


%create_finaldataset;


%printdata(project,&finaldataset,&title_name,Argentina and Mean Minimum and Maximum of Aggregate Group Brazil Peru


%plot_graph(1)
%plot_graph(2)
%plot_graph(3)

%clearlib



        %mend exec;

        %macro assignlib;
                libname &basectry xlsx "&path/&basecountry..xlsx";
                %do i=1 %to &numofcountries;
                        libname %substr(&&ctries&i, 1, 8) xlsx "&path\&&ctries&i...xlsx";
                %end;
        %mend assignlib;

        %macro printdata(lib, dset, title_1, title_2);
                title1 "&title_1";
                title2 "&title_2";

                proc print data=&lib..&dset label;
                run;

                title1;
                title2;
        %mend printdata;

        %macro dscreation(dsname, aggctry, iteration);
                data &dsname.;
                        %if &dsname=&Aggrdataset %then
                                %do;

                                        %if &iteration=1 %then
                                                %do;
                                                        set &aggctry..'data'n;
                                                %end;
                                        %else
                                                %do;
                                                        set &dsname &aggctry..'data'n;
                                                %end;
                                %end;
                        %else
                                %do;
                                        set &dsname..'data'n;
                                %end;

                        if Indicator_Code in("&Indicator");
                run;
        %mend dscreation;
        %macro mean_calc(aggrdata);
proc means data = &aggrdata maxdec=2;
output out=&aggrdata mean=m&startyear.-m&endyear min = min&startyear.-min&endyear max=max&startyear.-max&endyear;
class Indicator_Name;

run;
```

```
%mend mean_calc;
%macro merging;
data combined;
merge &basectry.(in=A) &Aggrdataset.(in=B);
by Indicator_Name;
 if A and B;
run;
%mend merging;
%macro removeunwanted;
data &Aggrdataset.(keep= Indicator_Name _&startyear.-_&endyear.);
 set &Aggrdataset.;
run;
%mend removeunwanted;

%macro create_finaldataset;
data &libraryname..&finaldataset.(keep = Year base &Aggrdataset &Aggrdataset._min &Aggrdataset._max); set combined;
array bsectry{&startyear.:&endyear.} _&startyear.-_&endyear;
array mean{&startyear.:&endyear.} m&startyear.-m&endyear;
array minimum{&startyear.:&endyear.} min&startyear.-min&endyear;
array maximum{&startyear.:&endyear.} max&startyear.-max&endyear;
do i = &startyear to &endyear;


Year=i;
base = bsectry{i};
&Aggrdataset = mean{i};
&Aggrdataset._min = minimum{i};
&Aggrdataset._max = maximum{i};
 output;
end;
label base ="&basecountry" &Aggrdataset = 'Aggregate Group Mean'
&Aggrdataset._min = 'Aggregate Group Minimum'
&Aggrdataset._max = 'Aggregate Group Maximum';
format base &Aggrdataset &Aggrdataset._min &Aggrdataset._max 8.2;
%mend create_finaldataset;
%macro plot_graph(k);
/* plotting graph of Base country vs Aggregate Group Mean */
goptions reset=all;
proc gplot data=project.&finaldataset;
%if &k = 1 %then %do;
plot base*Year Agg*Year/ overlay haxis=&startyear to &endyear legend;
%end;
%else %do;
plot Agg_max*Year Agg_min*Year base*Year/ overlay haxis=&startyear to &endyear legend;
%end;
title1 "&title_Name";
title2 "&&graphtitle&k";
symbol1 i=join v=dot ci=blue cv=blue;
symbol2 i=join v=triangle ci=red cv=red;
symbol3 i=join v=dot ci=red cv=blue;
 run;
quit;
title1;
title2;

%mend plot_graph;

%macro clearlib;
libname &basectry clear;
%do i = 1 %to &numofcountries;
libname %substr(&&ctries&i,1,8) clear;
 %end;
%mend clearlib;



        %exec;
```

Log: samplemacro.sas

Warnings (18)

Notes (309)

```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
NOTE: GOPTIONS statements in the SAS Studio environment may disable some output features.
56
57         options validvarname=v7;
58          %let path=/home/nkunaparaju0/PastProject;
59         %let libraryname = Project;
60         %let Indicator = EG.ELC.HYRO.ZS;
```

```
61
62          /*Indicator Code*/
63          %let basecountry = Argent;
64
65
66          /*Base Country*/
67          %let aggcountries = ('Brazil', 'Peru', 'Chile' );
68
69          /*Aggregate Group of Countries*/
70          %let numofcountries = 3;
71
72          /*Number of aggregate group countries*/
73          %let startyear = 2004;
74
75          /*start year of the time frame selected*/
76          %let endyear = 2014;
77
78          /*end year of the time frame selected*/
79          %let Aggrdataset = Agg;
80
81          /*Name of the agg group dataset*/
82          %let finaldataset = Internet_Users;
83
84          /*Name of the final dataset which would be used for analysis*/
85          %let title_name = '%Hydro Electricity Production';
86
87          /*Title on the report*/
88          %let graphtitle1 = &basecountry vs Aggregate Group Mean;
89
90          /*Title on the Base Country vs Agg Group Mean comparision report*/
91          %let graphtitle2 = &basecountry vs Aggregate Group Minimum & Maximum;
92
93          /*Title on the Base Country vs Agg Group Min and Max comparision report*/
94           %let basectry = %substr(&basecountry, 1, 8);
WARNING: Argument 3 to macro function %SUBSTR is out of range.
95
96          /*Selecting the first 8 characters in our base country name*/
97          libname &libraryname "&path";
NOTE: Libref PROJECT was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/nkunaparaju0/PastProject
98
99
100         data dummy_ds(keep=country);
101         do i=1 to &numofcountries;
102         array re{&numofcountries} $ 10 _temporary_ &aggcountries;
103         country=re{i};
104         output;
105         end;
106         label country=' Aggregate Group ';
107         run;

NOTE: The data set WORK.DUMMY_DS has 3 observations and 1 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              804.65k
      OS Memory           31908.00k
      Timestamp           04/26/2016 04:18:26 PM
      Step Count                        67  Switch Count  54
      Page Faults                       0
      Page Reclaims                     301
      Page Swaps                        0
      Voluntary Context Switches        164
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


108
109         proc print data=dummy_ds label;
110         run;

NOTE: There were 3 observations read from the data set WORK.DUMMY_DS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.02 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              1547.09k
      OS Memory           31908.00k
      Timestamp           04/26/2016 04:18:26 PM
      Step Count                        68  Switch Count  24
      Page Faults                       0
      Page Reclaims                     48
      Page Swaps                        0
      Voluntary Context Switches        40
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           8
```

```
111
112
113
114         proc sql noprint;
115         select country into :ctries1-:ctries&numofcountries from dummy_ds;
116         quit;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              5418.62k
      OS Memory           37032.00k
      Timestamp           04/26/2016 04:18:26 PM
      Step Count                        69  Switch Count  24
      Page Faults                       0
      Page Reclaims                     48
      Page Swaps                        0
      Voluntary Context Switches        40
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


117
118         run;
119         options mprint;
120
121         %macro exec;
122         %assignlib;
123         %dscreation(&basectry , , );
124         %printdata(work, &basectry, &title_name, &basecountry);
125         %do i=1 %to &numofcountries;
126         %dscreation(&Aggrdataset, %substr(&&ctries&i, 1, 8), &i);
127          %end;
128         run;
129         %removeunwanted;
130          %printdata(work,&Aggrdataset,&title_name,Aggregate Group);
131          %mean_calc(&Aggrdataset);
132          %merging;
133         %printdata(work,combined,&title_name,&basecountry merged with Aggregate Group);
134
135
136         %create_finaldataset;
137
138
139         %printdata(project,&finaldataset,&title_name,Argentina and Mean Minimum and Maximum of Aggregate Group Brazil Peru Chile
139       ! );
140
141
142         %plot_graph(1)
143         %plot_graph(2)
144         %plot_graph(3)
145
146         %clearlib
147
148
149
150         %mend exec;
151
152         %macro assignlib;
153         libname &basectry xlsx "&path/&basecountry..xlsx";
154         %do i=1 %to &numofcountries;
155         libname %substr(&&ctries&i, 1, 8) xlsx "&path\&&ctries&i...xlsx";
156         %end;
157         %mend assignlib;
158
159         %macro printdata(lib, dset, title_1, title_2);
160         title1 "&title_1";
161         title2 "&title_2";
162
163         proc print data=&lib..&dset label;
164         run;
165
166         title1;
167         title2;
168         %mend printdata;
169
170         %macro dscreation(dsname, aggctry, iteration);
171         data &dsname.;
172         %if &dsname=&Aggrdataset %then
173         %do;
174
175         %if &iteration=1 %then
176         %do;
177         set &aggctry..'data'n;
178         %end;
179         %else
180         %do;
181         set &dsname &aggctry..'data'n;
182         %end;
183         %end;
184         %else
```

```
185        %do;
186        set &dsname..'data'n;
187        %end;
188
189        if Indicator_Code in("&Indicator");
190        run;
191        %mend dscreation;
192        %macro mean_calc(aggrdata);
193        proc means data = &aggrdata maxdec=2;
194        output out=&aggrdata mean=m&startyear.-m&endyear min = min&startyear.-min&endyear max=max&startyear.-max&endyear;
195        class Indicator_Name;
196
197        run;
198        %mend mean_calc;
199        %macro merging;
200        data combined;
201        merge &basectry.(in=A) &Aggrdataset.(in=B);
202        by Indicator_Name;
203         if A and B;
204        run;
205        %mend merging;
206        %macro removeunwanted;
207        data &Aggrdataset.(keep= Indicator_Name _&startyear.-_&endyear.);
208         set &Aggrdataset.;
209        run;
210        %mend removeunwanted;
211
212        %macro create_finaldataset;
213        data &libraryname..&finaldataset.(keep = Year base &Aggrdataset &Aggrdataset._min &Aggrdataset._max); set combined;
214        array bsectry{&startyear.:&endyear.} _&startyear.-_&endyear;
215        array mean{&startyear.:&endyear.} m&startyear.-m&endyear;
216        array minimum{&startyear.:&endyear.} min&startyear.-min&endyear;
217        array maximum{&startyear.:&endyear.} max&startyear.-max&endyear;
218        do i = &startyear to &endyear;
219
220
221        Year=i;
222        base = bsectry{i};
223        &Aggrdataset = mean{i};
224        &Aggrdataset._min = minimum{i};
225        &Aggrdataset._max = maximum{i};
226         output;
227        end;
228        label base ="&basecountry" &Aggrdataset = 'Aggregate Group Mean'
229        &Aggrdataset._min = 'Aggregate Group Minimum'
230        &Aggrdataset._max = 'Aggregate Group Maximum';
231        format base &Aggrdataset &Aggrdataset._min &Aggrdataset._max 8.2;
232        %mend create_finaldataset;
233        %macro plot_graph(k);
234        /* plotting graph of Base country vs Aggregate Group Mean */
235        goptions reset=all;
236        proc gplot data=project.&finaldataset;
237        %if &k = 1 %then %do;
238        plot base*Year Agg*Year/ overlay haxis=&startyear to &endyear legend;
239        %end;
240        %else %do;
241        plot Agg_max*Year Agg_min*Year base*Year/ overlay haxis=&startyear to &endyear legend;
242        %end;
243        title1 "&title_Name";
244        title2 "&&graphtitle&k";
245        symbol1 i=join v=dot ci=blue cv=blue;
246        symbol2 i=join v=triangle ci=red cv=red;
247        symbol3 i=join v=dot ci=red cv=blue;
248         run;
249        quit;
250        title1;
251        title2;
252
253        %mend plot_graph;
254
255        %macro clearlib;
256        libname &basectry clear;
257        %do i = 1 %to &numofcountries;
258        libname %substr(&&ctries&i,1,8) clear;
259         %end;
260        %mend clearlib;
261
262
263
264        %exec;
MPRINT(ASSIGNLIB):   libname Argent xlsx "/home/nkunaparaju0/PastProject/Argent.xlsx";
NOTE: Libref ARGENT was successfully assigned as follows:
      Engine:        XLSX
      Physical Name: /home/nkunaparaju0/PastProject/Argent.xlsx
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(ASSIGNLIB):   libname Brazil xlsx "/home/nkunaparaju0/PastProject\Brazil.xlsx";
NOTE: Libref BRAZIL was successfully assigned as follows:
      Engine:        XLSX
      Physical Name: /home/nkunaparaju0/PastProject\Brazil.xlsx
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(ASSIGNLIB):   libname Peru xlsx "/home/nkunaparaju0/PastProject\Peru.xlsx";
NOTE: Libref PERU was successfully assigned as follows:
```

```
      Engine:        XLSX
      Physical Name: /home/nkunaparaju0/PastProject\Peru.xlsx
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(ASSIGNLIB):   libname Chile xlsx "/home/nkunaparaju0/PastProject\Chile.xlsx";
NOTE: Libref CHILE was successfully assigned as follows:
      Engine:        XLSX
      Physical Name: /home/nkunaparaju0/PastProject\Chile.xlsx
MPRINT(EXEC):  ;
MPRINT(DSCREATION):   data Argent;
MPRINT(DSCREATION):   set Argent.'data'n;
NOTE:    Variable Name Change.  Country Name -> Country_Name
NOTE:    Variable Name Change.  Country Code -> Country_Code
NOTE:    Variable Name Change.  Indicator Name -> Indicator_Name
NOTE:    Variable Name Change.  Indicator Code -> Indicator_Code
NOTE:    Variable Name Change.  1960 -> _1960
NOTE:    Variable Name Change.  1961 -> _1961
NOTE:    Variable Name Change.  1962 -> _1962
NOTE:    Variable Name Change.  1963 -> _1963
NOTE:    Variable Name Change.  1964 -> _1964
NOTE:    Variable Name Change.  1965 -> _1965
NOTE:    Variable Name Change.  1966 -> _1966
NOTE:    Variable Name Change.  1967 -> _1967
NOTE:    Variable Name Change.  1968 -> _1968
NOTE:    Variable Name Change.  1969 -> _1969
NOTE:    Variable Name Change.  1970 -> _1970
NOTE:    Variable Name Change.  1971 -> _1971
NOTE:    Variable Name Change.  1972 -> _1972
NOTE:    Variable Name Change.  1973 -> _1973
NOTE:    Variable Name Change.  1974 -> _1974
NOTE:    Variable Name Change.  1975 -> _1975
NOTE:    Variable Name Change.  1976 -> _1976
NOTE:    Variable Name Change.  1977 -> _1977
NOTE:    Variable Name Change.  1978 -> _1978
NOTE:    Variable Name Change.  1979 -> _1979
NOTE:    Variable Name Change.  1980 -> _1980
NOTE:    Variable Name Change.  1981 -> _1981
NOTE:    Variable Name Change.  1982 -> _1982
NOTE:    Variable Name Change.  1983 -> _1983
NOTE:    Variable Name Change.  1984 -> _1984
NOTE:    Variable Name Change.  1985 -> _1985
NOTE:    Variable Name Change.  1986 -> _1986
NOTE:    Variable Name Change.  1987 -> _1987
NOTE:    Variable Name Change.  1988 -> _1988
NOTE:    Variable Name Change.  1989 -> _1989
NOTE:    Variable Name Change.  1990 -> _1990
NOTE:    Variable Name Change.  1991 -> _1991
NOTE:    Variable Name Change.  1992 -> _1992
NOTE:    Variable Name Change.  1993 -> _1993
NOTE:    Variable Name Change.  1994 -> _1994
NOTE:    Variable Name Change.  1995 -> _1995
NOTE:    Variable Name Change.  1996 -> _1996
NOTE:    Variable Name Change.  1997 -> _1997
NOTE:    Variable Name Change.  1998 -> _1998
NOTE:    Variable Name Change.  1999 -> _1999
NOTE:    Variable Name Change.  2000 -> _2000
NOTE:    Variable Name Change.  2001 -> _2001
NOTE:    Variable Name Change.  2002 -> _2002
NOTE:    Variable Name Change.  2003 -> _2003
NOTE:    Variable Name Change.  2004 -> _2004
NOTE:    Variable Name Change.  2005 -> _2005
NOTE:    Variable Name Change.  2006 -> _2006
NOTE:    Variable Name Change.  2007 -> _2007
NOTE:    Variable Name Change.  2008 -> _2008
NOTE:    Variable Name Change.  2009 -> _2009
NOTE:    Variable Name Change.  2010 -> _2010
NOTE:    Variable Name Change.  2011 -> _2011
NOTE:    Variable Name Change.  2012 -> _2012
NOTE:    Variable Name Change.  2013 -> _2013
NOTE:    Variable Name Change.  2014 -> _2014
NOTE:    Variable Name Change.  2015 -> _2015
MPRINT(DSCREATION):   if Indicator_Code in("EG.ELC.HYRO.ZS");
MPRINT(DSCREATION):   run;

NOTE: The import data set has 1365 observations and 60 variables.
NOTE: There were 1365 observations read from the data set ARGENT.data.
NOTE: The data set WORK.ARGENT has 1 observations and 60 variables.
NOTE: DATA statement used (Total process time):
      real time           0.33 seconds
      user cpu time       0.33 seconds
      system cpu time     0.00 seconds
      memory              2709.53k
      OS Memory           33956.00k
      Timestamp           04/26/2016 04:18:26 PM
      Step Count                        70  Switch Count  156
      Page Faults                       0
      Page Reclaims                     773
      Page Swaps                        0
      Voluntary Context Switches        574
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264
```

```
MPRINT(EXEC):  ;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PRINTDATA):   title1 "'%Hydro Electricity Production'";
MPRINT(PRINTDATA):   title2 "Argent";
MPRINT(PRINTDATA):   proc print data=work.Argent label;
MPRINT(PRINTDATA):   run;

NOTE: There were 1 observations read from the data set WORK.ARGENT.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.06 seconds
      user cpu time       0.07 seconds
      system cpu time     0.00 seconds
      memory              1581.15k
      OS Memory           33188.00k
      Timestamp           04/26/2016 04:18:26 PM
      Step Count                        71  Switch Count  22
      Page Faults                       0
      Page Reclaims                     90
      Page Swaps                        0
      Voluntary Context Switches        33
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


MPRINT(PRINTDATA):   title1;
MPRINT(PRINTDATA):   title2;
MPRINT(EXEC):  ;
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(DSCREATION):   data Agg;
MPRINT(DSCREATION):   set Brazil.'data'n;
NOTE:    Variable Name Change.  Country Name -> Country_Name
NOTE:    Variable Name Change.  Country Code -> Country_Code
NOTE:    Variable Name Change.  Indicator Name -> Indicator_Name
NOTE:    Variable Name Change.  Indicator Code -> Indicator_Code
NOTE:    Variable Name Change.  1960 -> _1960
NOTE:    Variable Name Change.  1961 -> _1961
NOTE:    Variable Name Change.  1962 -> _1962
NOTE:    Variable Name Change.  1963 -> _1963
NOTE:    Variable Name Change.  1964 -> _1964
NOTE:    Variable Name Change.  1965 -> _1965
NOTE:    Variable Name Change.  1966 -> _1966
NOTE:    Variable Name Change.  1967 -> _1967
NOTE:    Variable Name Change.  1968 -> _1968
NOTE:    Variable Name Change.  1969 -> _1969
NOTE:    Variable Name Change.  1970 -> _1970
NOTE:    Variable Name Change.  1971 -> _1971
NOTE:    Variable Name Change.  1972 -> _1972
NOTE:    Variable Name Change.  1973 -> _1973
NOTE:    Variable Name Change.  1974 -> _1974
NOTE:    Variable Name Change.  1975 -> _1975
NOTE:    Variable Name Change.  1976 -> _1976
NOTE:    Variable Name Change.  1977 -> _1977
NOTE:    Variable Name Change.  1978 -> _1978
NOTE:    Variable Name Change.  1979 -> _1979
NOTE:    Variable Name Change.  1980 -> _1980
NOTE:    Variable Name Change.  1981 -> _1981
NOTE:    Variable Name Change.  1982 -> _1982
NOTE:    Variable Name Change.  1983 -> _1983
NOTE:    Variable Name Change.  1984 -> _1984
NOTE:    Variable Name Change.  1985 -> _1985
NOTE:    Variable Name Change.  1986 -> _1986
NOTE:    Variable Name Change.  1987 -> _1987
NOTE:    Variable Name Change.  1988 -> _1988
NOTE:    Variable Name Change.  1989 -> _1989
NOTE:    Variable Name Change.  1990 -> _1990
NOTE:    Variable Name Change.  1991 -> _1991
NOTE:    Variable Name Change.  1992 -> _1992
NOTE:    Variable Name Change.  1993 -> _1993
NOTE:    Variable Name Change.  1994 -> _1994
NOTE:    Variable Name Change.  1995 -> _1995
NOTE:    Variable Name Change.  1996 -> _1996
NOTE:    Variable Name Change.  1997 -> _1997
NOTE:    Variable Name Change.  1998 -> _1998
NOTE:    Variable Name Change.  1999 -> _1999
NOTE:    Variable Name Change.  2000 -> _2000
NOTE:    Variable Name Change.  2001 -> _2001
NOTE:    Variable Name Change.  2002 -> _2002
NOTE:    Variable Name Change.  2003 -> _2003
NOTE:    Variable Name Change.  2004 -> _2004
NOTE:    Variable Name Change.  2005 -> _2005
NOTE:    Variable Name Change.  2006 -> _2006
NOTE:    Variable Name Change.  2007 -> _2007
NOTE:    Variable Name Change.  2008 -> _2008
NOTE:    Variable Name Change.  2009 -> _2009
NOTE:    Variable Name Change.  2010 -> _2010
NOTE:    Variable Name Change.  2011 -> _2011
NOTE:    Variable Name Change.  2012 -> _2012
NOTE:    Variable Name Change.  2013 -> _2013
NOTE:    Variable Name Change.  2014 -> _2014
NOTE:    Variable Name Change.  2015 -> _2015
```

```
MPRINT(DSCREATION):   if Indicator_Code in("EG.ELC.HYRO.ZS");
MPRINT(DSCREATION):   run;

NOTE: The import data set has 1365 observations and 60 variables.
NOTE: There were 1365 observations read from the data set BRAZIL.data.
NOTE: The data set WORK.AGG has 1 observations and 60 variables.
NOTE: DATA statement used (Total process time):
      real time           0.40 seconds
      user cpu time       0.41 seconds
      system cpu time     0.00 seconds
      memory              2716.12k
      OS Memory           34212.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        72  Switch Count  160
      Page Faults                       0
      Page Reclaims                     518
      Page Swaps                        0
      Voluntary Context Switches        590
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


MPRINT(EXEC):  ;
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(DSCREATION):   data Agg;
MPRINT(DSCREATION):   set Agg Peru.'data'n;
NOTE:    Variable Name Change.  Country Name -> Country_Name
NOTE:    Variable Name Change.  Country Code -> Country_Code
NOTE:    Variable Name Change.  Indicator Name -> Indicator_Name
NOTE:    Variable Name Change.  Indicator Code -> Indicator_Code
NOTE:    Variable Name Change.  1960 -> _1960
NOTE:    Variable Name Change.  1961 -> _1961
NOTE:    Variable Name Change.  1962 -> _1962
NOTE:    Variable Name Change.  1963 -> _1963
NOTE:    Variable Name Change.  1964 -> _1964
NOTE:    Variable Name Change.  1965 -> _1965
NOTE:    Variable Name Change.  1966 -> _1966
NOTE:    Variable Name Change.  1967 -> _1967
NOTE:    Variable Name Change.  1968 -> _1968
NOTE:    Variable Name Change.  1969 -> _1969
NOTE:    Variable Name Change.  1970 -> _1970
NOTE:    Variable Name Change.  1971 -> _1971
NOTE:    Variable Name Change.  1972 -> _1972
NOTE:    Variable Name Change.  1973 -> _1973
NOTE:    Variable Name Change.  1974 -> _1974
NOTE:    Variable Name Change.  1975 -> _1975
NOTE:    Variable Name Change.  1976 -> _1976
NOTE:    Variable Name Change.  1977 -> _1977
NOTE:    Variable Name Change.  1978 -> _1978
NOTE:    Variable Name Change.  1979 -> _1979
NOTE:    Variable Name Change.  1980 -> _1980
NOTE:    Variable Name Change.  1981 -> _1981
NOTE:    Variable Name Change.  1982 -> _1982
NOTE:    Variable Name Change.  1983 -> _1983
NOTE:    Variable Name Change.  1984 -> _1984
NOTE:    Variable Name Change.  1985 -> _1985
NOTE:    Variable Name Change.  1986 -> _1986
NOTE:    Variable Name Change.  1987 -> _1987
NOTE:    Variable Name Change.  1988 -> _1988
NOTE:    Variable Name Change.  1989 -> _1989
NOTE:    Variable Name Change.  1990 -> _1990
NOTE:    Variable Name Change.  1991 -> _1991
NOTE:    Variable Name Change.  1992 -> _1992
NOTE:    Variable Name Change.  1993 -> _1993
NOTE:    Variable Name Change.  1994 -> _1994
NOTE:    Variable Name Change.  1995 -> _1995
NOTE:    Variable Name Change.  1996 -> _1996
NOTE:    Variable Name Change.  1997 -> _1997
NOTE:    Variable Name Change.  1998 -> _1998
NOTE:    Variable Name Change.  1999 -> _1999
NOTE:    Variable Name Change.  2000 -> _2000
NOTE:    Variable Name Change.  2001 -> _2001
NOTE:    Variable Name Change.  2002 -> _2002
NOTE:    Variable Name Change.  2003 -> _2003
NOTE:    Variable Name Change.  2004 -> _2004
NOTE:    Variable Name Change.  2005 -> _2005
NOTE:    Variable Name Change.  2006 -> _2006
NOTE:    Variable Name Change.  2007 -> _2007
NOTE:    Variable Name Change.  2008 -> _2008
NOTE:    Variable Name Change.  2009 -> _2009
NOTE:    Variable Name Change.  2010 -> _2010
NOTE:    Variable Name Change.  2011 -> _2011
NOTE:    Variable Name Change.  2012 -> _2012
NOTE:    Variable Name Change.  2013 -> _2013
NOTE:    Variable Name Change.  2014 -> _2014
NOTE:    Variable Name Change.  2015 -> _2015
MPRINT(DSCREATION):   if Indicator_Code in("EG.ELC.HYRO.ZS");
MPRINT(DSCREATION):   run;

NOTE: The import data set has 1365 observations and 60 variables.
NOTE: There were 1 observations read from the data set WORK.AGG.
```

```
NOTE: There were 1365 observations read from the data set PERU.data.
NOTE: The data set WORK.AGG has 2 observations and 60 variables.
NOTE: DATA statement used (Total process time):
      real time           0.41 seconds
      user cpu time       0.42 seconds
      system cpu time     0.00 seconds
      memory              3006.60k
      OS Memory           34472.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        73  Switch Count  158
      Page Faults                       0
      Page Reclaims                     506
      Page Swaps                        0
      Voluntary Context Switches        582
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


MPRINT(EXEC):  ;
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(DSCREATION):   data Agg;
MPRINT(DSCREATION):   set Agg Chile.'data'n;
NOTE:    Variable Name Change.  Country Name -> Country_Name
NOTE:    Variable Name Change.  Country Code -> Country_Code
NOTE:    Variable Name Change.  Indicator Name -> Indicator_Name
NOTE:    Variable Name Change.  Indicator Code -> Indicator_Code
NOTE:    Variable Name Change.  1960 -> _1960
NOTE:    Variable Name Change.  1961 -> _1961
NOTE:    Variable Name Change.  1962 -> _1962
NOTE:    Variable Name Change.  1963 -> _1963
NOTE:    Variable Name Change.  1964 -> _1964
NOTE:    Variable Name Change.  1965 -> _1965
NOTE:    Variable Name Change.  1966 -> _1966
NOTE:    Variable Name Change.  1967 -> _1967
NOTE:    Variable Name Change.  1968 -> _1968
NOTE:    Variable Name Change.  1969 -> _1969
NOTE:    Variable Name Change.  1970 -> _1970
NOTE:    Variable Name Change.  1971 -> _1971
NOTE:    Variable Name Change.  1972 -> _1972
NOTE:    Variable Name Change.  1973 -> _1973
NOTE:    Variable Name Change.  1974 -> _1974
NOTE:    Variable Name Change.  1975 -> _1975
NOTE:    Variable Name Change.  1976 -> _1976
NOTE:    Variable Name Change.  1977 -> _1977
NOTE:    Variable Name Change.  1978 -> _1978
NOTE:    Variable Name Change.  1979 -> _1979
NOTE:    Variable Name Change.  1980 -> _1980
NOTE:    Variable Name Change.  1981 -> _1981
NOTE:    Variable Name Change.  1982 -> _1982
NOTE:    Variable Name Change.  1983 -> _1983
NOTE:    Variable Name Change.  1984 -> _1984
NOTE:    Variable Name Change.  1985 -> _1985
NOTE:    Variable Name Change.  1986 -> _1986
NOTE:    Variable Name Change.  1987 -> _1987
NOTE:    Variable Name Change.  1988 -> _1988
NOTE:    Variable Name Change.  1989 -> _1989
NOTE:    Variable Name Change.  1990 -> _1990
NOTE:    Variable Name Change.  1991 -> _1991
NOTE:    Variable Name Change.  1992 -> _1992
NOTE:    Variable Name Change.  1993 -> _1993
NOTE:    Variable Name Change.  1994 -> _1994
NOTE:    Variable Name Change.  1995 -> _1995
NOTE:    Variable Name Change.  1996 -> _1996
NOTE:    Variable Name Change.  1997 -> _1997
NOTE:    Variable Name Change.  1998 -> _1998
NOTE:    Variable Name Change.  1999 -> _1999
NOTE:    Variable Name Change.  2000 -> _2000
NOTE:    Variable Name Change.  2001 -> _2001
NOTE:    Variable Name Change.  2002 -> _2002
NOTE:    Variable Name Change.  2003 -> _2003
NOTE:    Variable Name Change.  2004 -> _2004
NOTE:    Variable Name Change.  2005 -> _2005
NOTE:    Variable Name Change.  2006 -> _2006
NOTE:    Variable Name Change.  2007 -> _2007
NOTE:    Variable Name Change.  2008 -> _2008
NOTE:    Variable Name Change.  2009 -> _2009
NOTE:    Variable Name Change.  2010 -> _2010
NOTE:    Variable Name Change.  2011 -> _2011
NOTE:    Variable Name Change.  2012 -> _2012
NOTE:    Variable Name Change.  2013 -> _2013
NOTE:    Variable Name Change.  2014 -> _2014
NOTE:    Variable Name Change.  2015 -> _2015
MPRINT(DSCREATION):   if Indicator_Code in("EG.ELC.HYRO.ZS");
MPRINT(DSCREATION):   run;

NOTE: The import data set has 1420 observations and 60 variables.
NOTE: There were 2 observations read from the data set WORK.AGG.
NOTE: There were 1420 observations read from the data set CHILE.data.
NOTE: The data set WORK.AGG has 3 observations and 60 variables.
NOTE: DATA statement used (Total process time):
      real time           0.31 seconds
```

```
      user cpu time       0.32 seconds
      system cpu time     0.00 seconds
      memory              2322.90k
      OS Memory           33960.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        74  Switch Count  158
      Page Faults                       0
      Page Reclaims                     374
      Page Swaps                        0
      Voluntary Context Switches        582
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


MPRINT(EXEC):  ;
MPRINT(EXEC):   run;
MPRINT(REMOVEUNWANTED):   data Agg(keep= Indicator_Name _2004-_2014);
MPRINT(REMOVEUNWANTED):   set Agg;
MPRINT(REMOVEUNWANTED):   run;

NOTE: There were 3 observations read from the data set WORK.AGG.
NOTE: The data set WORK.AGG has 3 observations and 12 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              1069.09k
      OS Memory           33704.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        75  Switch Count  28
      Page Faults                       0
      Page Reclaims                     289
      Page Swaps                        0
      Voluntary Context Switches        58
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


MPRINT(EXEC):  ;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PRINTDATA):   title1 "'%Hydro Electricity Production'";
MPRINT(PRINTDATA):   title2 "Aggregate Group";
MPRINT(PRINTDATA):   proc print data=work.Agg label;
MPRINT(PRINTDATA):   run;

NOTE: There were 3 observations read from the data set WORK.AGG.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.02 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              605.21k
      OS Memory           33444.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        76  Switch Count  26
      Page Faults                       0
      Page Reclaims                     47
      Page Swaps                        0
      Voluntary Context Switches        49
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           24


MPRINT(PRINTDATA):   title1;
MPRINT(PRINTDATA):   title2;
MPRINT(EXEC):  ;
MPRINT(MEAN_CALC):   proc means data = Agg maxdec=2;
MPRINT(MEAN_CALC):   output out=Agg mean=m2004-m2014 min = min2004-min2014 max=max2004-max2014;
MPRINT(MEAN_CALC):   class Indicator_Name;
MPRINT(MEAN_CALC):   run;

NOTE: There were 3 observations read from the data set WORK.AGG.
NOTE: The data set WORK.AGG has 2 observations and 36 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.05 seconds
      user cpu time       0.06 seconds
      system cpu time     0.00 seconds
      memory              7307.04k
      OS Memory           38828.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        77  Switch Count  30
      Page Faults                       0
      Page Reclaims                     1443
      Page Swaps                        0
      Voluntary Context Switches        90
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264
```

```
MPRINT(EXEC):  ;
MPRINT(MERGING):   data combined;
MPRINT(MERGING):   merge Argent(in=A) Agg(in=B);
MPRINT(MERGING):   by Indicator_Name;
MPRINT(MERGING):   if A and B;
MPRINT(MERGING):   run;

NOTE: There were 1 observations read from the data set WORK.ARGENT.
NOTE: There were 2 observations read from the data set WORK.AGG.
NOTE: The data set WORK.COMBINED has 1 observations and 95 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              1437.34k
      OS Memory           33964.00k
      Timestamp           04/26/2016 04:18:27 PM
      Step Count                        78  Switch Count  38
      Page Faults                       0
      Page Reclaims                     328
      Page Swaps                        0
      Voluntary Context Switches        82
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


MPRINT(EXEC):  ;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PRINTDATA):   title1 "'%Hydro Electricity Production'";
MPRINT(PRINTDATA):   title2 "Argent merged with Aggregate Group";
MPRINT(PRINTDATA):   proc print data=work.combined label;
MPRINT(PRINTDATA):   run;

NOTE: There were 1 observations read from the data set WORK.COMBINED.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.15 seconds
      user cpu time       0.16 seconds
      system cpu time     0.00 seconds
      memory              1238.62k
      OS Memory           33444.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                        79  Switch Count  22
      Page Faults                       0
      Page Reclaims                     47
      Page Swaps                        0
      Voluntary Context Switches        34
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           40


MPRINT(PRINTDATA):   title1;
MPRINT(PRINTDATA):   title2;
MPRINT(EXEC):  ;
MPRINT(CREATE_FINALDATASET):   data Project.Internet_Users(keep = Year base Agg Agg_min Agg_max);
MPRINT(CREATE_FINALDATASET):   set combined;
MPRINT(CREATE_FINALDATASET):   array bsectry{2004:2014} _2004-_2014;
MPRINT(CREATE_FINALDATASET):   array mean{2004:2014} m2004-m2014;
MPRINT(CREATE_FINALDATASET):   array minimum{2004:2014} min2004-min2014;
MPRINT(CREATE_FINALDATASET):   array maximum{2004:2014} max2004-max2014;
MPRINT(CREATE_FINALDATASET):   do i = 2004 to 2014;
MPRINT(CREATE_FINALDATASET):   Year=i;
MPRINT(CREATE_FINALDATASET):   base = bsectry{i};
MPRINT(CREATE_FINALDATASET):   Agg = mean{i};
MPRINT(CREATE_FINALDATASET):   Agg_min = minimum{i};
MPRINT(CREATE_FINALDATASET):   Agg_max = maximum{i};
MPRINT(CREATE_FINALDATASET):   output;
MPRINT(CREATE_FINALDATASET):   end;
MPRINT(CREATE_FINALDATASET):   label base = "Argent" Agg = 'Aggregate Group Mean' Agg_min = 'Aggregate Group Minimum' Agg_max =
'Aggregate Group Maximum';
MPRINT(CREATE_FINALDATASET):   format base Agg Agg_min Agg_max 8.2;
MPRINT(EXEC):  ;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PRINTDATA):   title1 "'%Hydro Electricity Production'";
MPRINT(PRINTDATA):   title2 "Argentina and Mean Minimum and Maximum of Aggregate Group Brazil Peru Chile";
NOTE: There were 1 observations read from the data set WORK.COMBINED.
NOTE: The data set PROJECT.INTERNET_USERS has 11 observations and 5 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              1141.75k
      OS Memory           33704.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                        80  Switch Count  71
      Page Faults                       0
      Page Reclaims                     294
      Page Swaps                        0
      Voluntary Context Switches        253
      Involuntary Context Switches      5
      Block Input Operations            0
```

```
      Block Output Operations          264


MPRINT(PRINTDATA):   proc print data=project.Internet_Users label;
MPRINT(PRINTDATA):   run;

NOTE: There were 11 observations read from the data set PROJECT.INTERNET_USERS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.02 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              522.53k
      OS Memory           33444.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                       81  Switch Count  22
      Page Faults                      0
      Page Reclaims                    47
      Page Swaps                       0
      Voluntary Context Switches       41
      Involuntary Context Switches     5
      Block Input Operations           288
      Block Output Operations          0


MPRINT(PRINTDATA):   title1;
MPRINT(PRINTDATA):   title2;
MPRINT(EXEC):  ;
MPRINT(PLOT_GRAPH):   goptions reset=all;
MPRINT(PLOT_GRAPH):   proc gplot data=project.Internet_Users;
MPRINT(PLOT_GRAPH):   plot base*Year Agg*Year/ overlay haxis=2004 to 2014 legend;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PLOT_GRAPH):   title1 "'%Hydro Electricity Production'";
MPRINT(PLOT_GRAPH):   title2 "Argent vs Aggregate Group Mean";
MPRINT(PLOT_GRAPH):   symbol1 i=join v=dot ci=blue cv=blue;
MPRINT(PLOT_GRAPH):   symbol2 i=join v=triangle ci=red cv=red;
MPRINT(PLOT_GRAPH):   symbol3 i=join v=dot ci=red cv=blue;
MPRINT(PLOT_GRAPH):   run;
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
MPRINT(PLOT_GRAPH):   quit;
NOTE: There were 11 observations read from the data set PROJECT.INTERNET_USERS.
NOTE: PROCEDURE GPLOT used (Total process time):
      real time           0.23 seconds
      user cpu time       0.21 seconds
      system cpu time     0.02 seconds
      memory              8971.04k
      OS Memory           40724.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                       82  Switch Count  61
      Page Faults                      0
      Page Reclaims                    1977
      Page Swaps                       0
      Voluntary Context Switches       206
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          512


MPRINT(PLOT_GRAPH):   title1;
MPRINT(PLOT_GRAPH):   title2;
MPRINT(PLOT_GRAPH):   goptions reset=all;
MPRINT(PLOT_GRAPH):   proc gplot data=project.Internet_Users;
MPRINT(PLOT_GRAPH):   plot Agg_max*Year Agg_min*Year base*Year/ overlay haxis=2004 to 2014 legend;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PLOT_GRAPH):   title1 "'%Hydro Electricity Production'";
MPRINT(PLOT_GRAPH):   title2 "Argent vs Aggregate Group Minimum & Maximum";
MPRINT(PLOT_GRAPH):   symbol1 i=join v=dot ci=blue cv=blue;
MPRINT(PLOT_GRAPH):   symbol2 i=join v=triangle ci=red cv=red;
MPRINT(PLOT_GRAPH):   symbol3 i=join v=dot ci=red cv=blue;
MPRINT(PLOT_GRAPH):   run;
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
MPRINT(PLOT_GRAPH):   quit;
NOTE: There were 11 observations read from the data set PROJECT.INTERNET_USERS.
NOTE: PROCEDURE GPLOT used (Total process time):
      real time           0.23 seconds
      user cpu time       0.21 seconds
      system cpu time     0.02 seconds
      memory              8092.35k
      OS Memory           40724.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                       83  Switch Count  57
      Page Faults                      0
      Page Reclaims                    1181
      Page Swaps                       0
      Voluntary Context Switches       187
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          392
```

```
MPRINT(PLOT_GRAPH):   title1;
MPRINT(PLOT_GRAPH):   title2;
MPRINT(PLOT_GRAPH):   goptions reset=all;
MPRINT(PLOT_GRAPH):   proc gplot data=project.Internet_Users;
MPRINT(PLOT_GRAPH):   plot Agg_max*Year Agg_min*Year base*Year/ overlay haxis=2004 to 2014 legend;
WARNING: Apparent invocation of macro HYDRO not resolved.
MPRINT(PLOT_GRAPH):   title1 "'%Hydro Electricity Production'";
WARNING: Apparent symbolic reference GRAPHTITLE3 not resolved.
MPRINT(PLOT_GRAPH):   title2 "&graphtitle3";
MPRINT(PLOT_GRAPH):   symbol1 i=join v=dot ci=blue cv=blue;
MPRINT(PLOT_GRAPH):   symbol2 i=join v=triangle ci=red cv=red;
MPRINT(PLOT_GRAPH):   symbol3 i=join v=dot ci=red cv=blue;
MPRINT(PLOT_GRAPH):   run;
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
NOTE: 1 observation(s) contained a MISSING value for the base * Year request.
MPRINT(PLOT_GRAPH):   quit;
NOTE: There were 11 observations read from the data set PROJECT.INTERNET_USERS.
NOTE: PROCEDURE GPLOT used (Total process time):
      real time           0.22 seconds
      user cpu time       0.21 seconds
      system cpu time     0.01 seconds
      memory              8145.26k
      OS Memory           41236.00k
      Timestamp           04/26/2016 04:18:28 PM
      Step Count                        84  Switch Count  59
      Page Faults                       0
      Page Reclaims                     1067
      Page Swaps                        0
      Voluntary Context Switches        195
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           432


MPRINT(PLOT_GRAPH):   title1;
MPRINT(PLOT_GRAPH):   title2;
MPRINT(CLEARLIB):   libname Argent clear;
NOTE: Libref ARGENT has been deassigned.
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(CLEARLIB):   libname Brazil clear;
NOTE: Libref BRAZIL has been deassigned.
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(CLEARLIB):   libname Peru clear;
NOTE: Libref PERU has been deassigned.
WARNING: Argument 3 to macro function %SUBSTR is out of range.
MPRINT(CLEARLIB):   libname Chile clear;
NOTE: Libref CHILE has been deassigned.
265
266        OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
278
```

Results: samplemacro.sas

Obs	Aggregate Group
1	Brazil
2	Peru
3	Chile

'%Hydro Electricity Production'
Argent

Obs	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	
1	Argentina	ARG	Electricity production from hydroelectric sources (% of total)	EG.ELC.HYRO.ZS	.	.	.	.	.	.	.	.	.	.	.	6.53572638	5.9432545641	11.229886351	17.989266547	17.724840678	16

'%Hydro Electricity Production'
Aggregate Group

Obs	Indicator Name	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	Electricity production from hydroelectric sources (% of total)	82.796364978	83.729372037	83.180115277	84.020559501	79.806161959	83.881223974	78.195426034	80.550514615	75.150131269	68.555517955	.
2	Electricity production from hydroelectric sources (% of total)	72.253143682	70.90081964	72.019153447	65.313554509	58.711069997	59.190986668	55.842853162	55.036585677	53.506727806	51.557492334	.
3	Electricity production from hydroelectric sources (% of total)	42.921027964	50.459187562	52.655459147	39.532379634	40.521573094	41.658706894	35.935069663	31.970842908	28.899944087	27.012933689	31.61828974

The MEANS Procedure

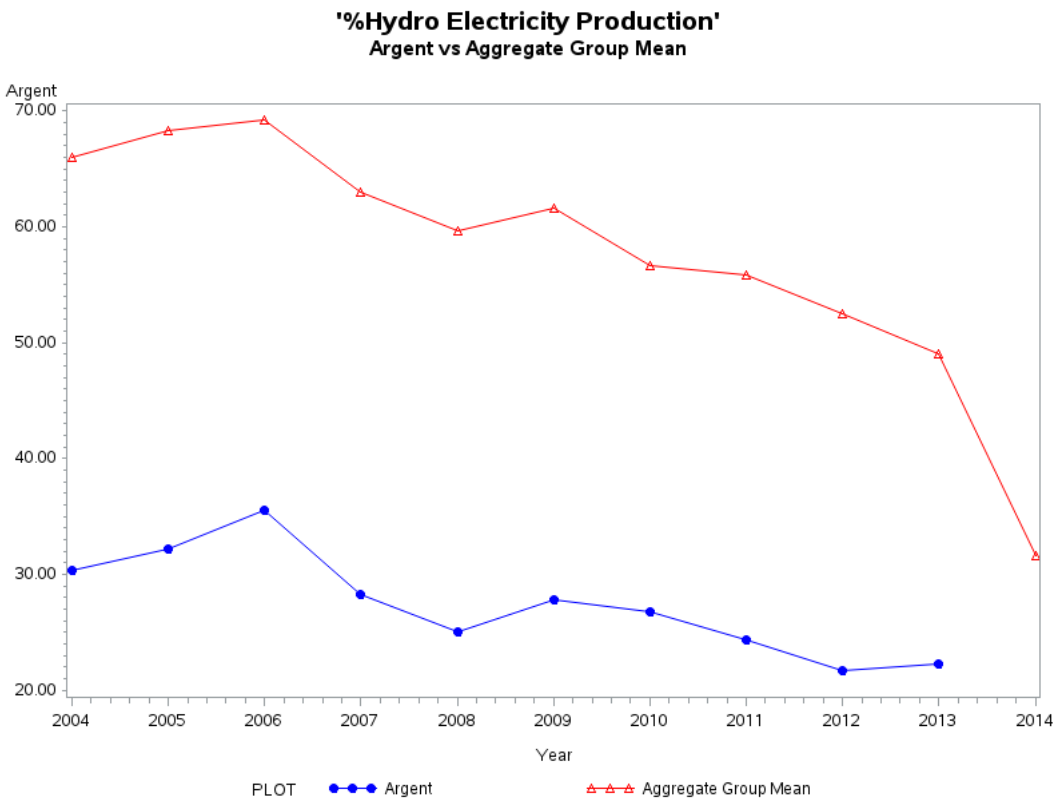
Indicator Name	N Obs	Variable	Label	N	Mean	Std Dev	Minimum	Maximum
Electricity production from hydroelectric sources (% of total)	3	_2004	2004	3	65.99	20.66	42.92	82.80
		_2005	2005	3	68.36	16.78	50.46	83.73
		_2006	2006	3	69.28	15.44	52.66	83.18
		_2007	2007	3	62.96	22.34	39.53	84.02
		_2008	2008	3	59.68	19.66	40.52	79.81
		_2009	2009	3	61.58	21.21	41.66	83.88
		_2010	2010	3	56.66	21.14	35.94	78.20
		_2011	2011	3	55.85	24.30	31.97	80.55
		_2012	2012	3	52.52	23.14	28.90	75.15
		_2013	2013	3	49.04	20.89	27.01	68.56
		_2014	2014	1	31.62	.	31.62	31.62

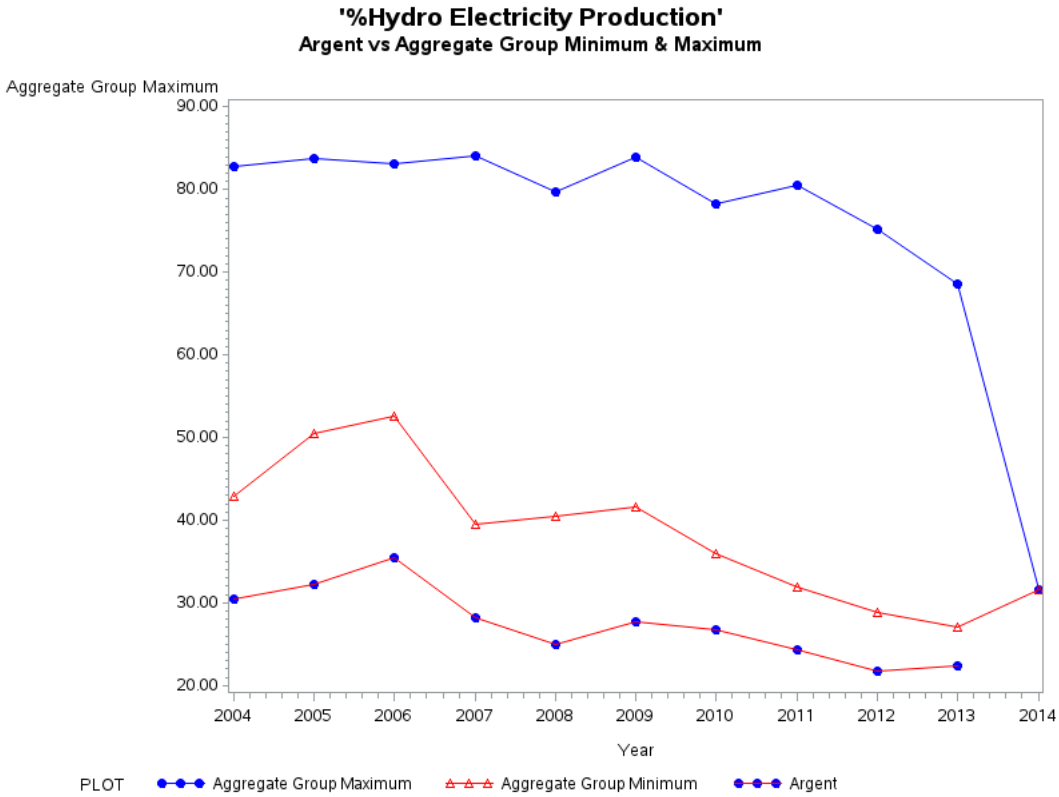
'%Hydro Electricity Production'
Argent merged with Aggregate Group

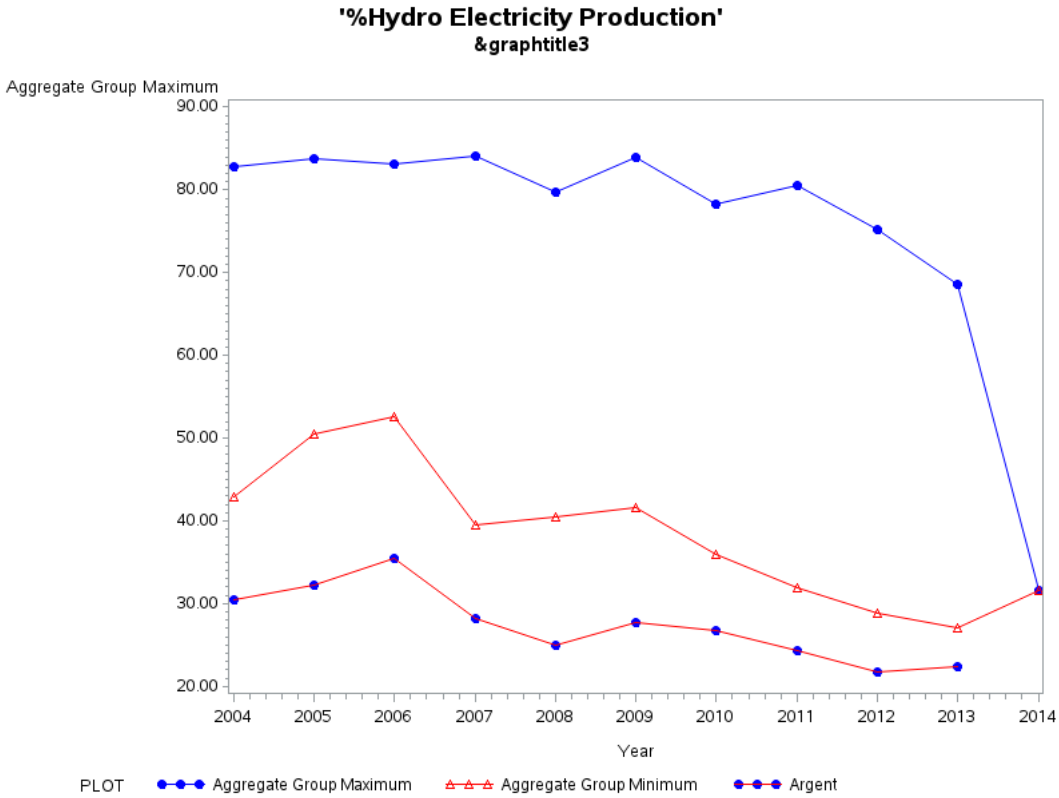
Obs	Country Name	Country Code	Indicator Name	Indicator Code	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	
1	Argentina	ARG	Electricity production from hydroelectric sources (% of total)	EG.ELC.HYRO.ZS	.	.	.	.	.	.	.	.	.	.	.	6.53572638	5.9432545641	11.229886351	17.989266547	17.724840678	16

'%Hydro Electricity Production'
Argentina and Mean Minimum and Maximum of Aggregate Group Brazil Peru Chile

Obs	Year	Argent	Aggregate Group Mean	Aggregate Group Minimum	Aggregate Group Maximum
1	2004	30.39	65.99	42.92	82.80
2	2005	32.23	68.36	50.46	83.73
3	2006	35.51	69.28	52.66	83.18
4	2007	28.27	62.96	39.53	84.02
5	2008	25.01	59.68	40.52	79.81
6	2009	27.78	61.58	41.66	83.88
7	2010	26.81	56.66	35.94	78.20
8	2011	24.36	55.85	31.97	80.55
9	2012	21.73	52.52	28.90	75.15
10	2013	22.32	49.04	27.01	68.56
11	2014	.	31.62	31.62	31.62




'%Hydro Electricity Production'
Argent vs Aggregate Group Minimum & Maximum
Aggregate Group Maximum
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Year
PLOT
Aggregate Group Maximum
Aggregate Group Minimum
Argent


'%Hydro Electricity Production'
&graphtitle3
Aggregate Group Maximum
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Year
PLOT
Aggregate Group Maximum
Aggregate Group Minimum
Argent