Program Summary - Ban130Project.sas

Execution Environment

Author:	u63044324
File:	/home/u63044324/BAN 130/Project/Ban130Project.sas
SAS Platform:	Linux LIN X64 3.10.0-1062.12.1.el7.x86_64
SAS Host:	ODAWS02-USW2-2.ODA.SAS.COM
SAS Version:	9.04.01M7P08062020
SAS Locale:	en_GB
Submission Time:	13/04/2023, 20:00:51
Browser Host:	CPEAC202E034723-CMAC202E034720.CPE.NET.CABLE.ROGERS.COM
User Agent:	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/111.0.0.0 Safari/537.36
Application Server:	ODAMID00-USW2-2.ODA.SAS.COM

Code: Ban130Project.sas

```
libname ban130 "/home/u63044324/BAN 130/Project";
PROC IMPORT DATAFILE='/home/u63044324/BAN 130/Project/master.csv'
    OUT=master
    DBMS=CSV REPLACE;
RUN;

PROC PRINT DATA=master(obs=50);
RUN;

*Identification of all the variables and thier types;

PROC CONTENTS DATA=master OUT=master_contents;
RUN;

PROC PRINT DATA=master_contents;
    VAR NAME TYPE LENGTH;
RUN;

*Calculating mean and median of the suicide number variable;

PROC MEANS DATA=master;
    VAR suicides_no;
    OUTPUT OUT=stats MEAN=mean_mediansuicides_no MEDIAN=median_suicides_no;
RUN;

PROC PRINT DATA=stats;
    VAR mean_mediansuicides_no median_suicides_no;
RUN;

* calculating the average rate of suicide across different countries thier graphical representation;

/* Import master.csv dataset */
proc import datafile="/home/u63044324/BAN 130/Project/master.csv" out=master
    dbms=csv replace;
    getnames=yes;
run;


/* Calculate average suicide count */
proc means data=master noprint;
    var suicides_no;
    output out=suicide_count_mean
        mean=suicide_count;
run;

/* Print average suicide count */
proc print data=suicide_count_mean;
```

```
    title 'Average Suicide Count';
run;

*lets calculate correlation coeficient between suicide number and year variables;

/* Import the dataset */
proc import datafile="/home/u63044324/BAN 130/Project/master.csv"
            out=master
            dbms=csv
            replace;
            getnames=yes;
run;

/* Calculate correlation coefficients */
proc corr data=master;
    var suicides_no year;
run;

* Lets see the demographic analysis;


/* create a new dataset that groups the data by age group and gender */
proc sql;
create table suicide_by_demographics as
select age, sex, sum(suicides_no) as total_suicides
from master
group by age, sex;
quit;

/* create a bar chart of the total suicides by age group and gender */
proc sgplot data=suicide_by_demographics;
vbar age / group=sex response=total_suicides groupdisplay=cluster;
xaxis display=(nolabel);
yaxis grid;
run;


/* create a new dataset that groups the data by age group and gender */
proc sql;
create table suicide_by_demographics as
select age, sex, sum(suicides_no) as total_suicides
from master
group by age, sex;
quit;

/* create a bar chart of the total suicides by age group and gender */
proc sgplot data=suicide_by_demographics;
title 'Total Suicides by Age Group and Gender';
vbar age / group=sex response=total_suicides groupdisplay=cluster;
xaxis display=(nolabel);
yaxis grid;
run;

/* create a scatter plot of population vs suicides_no */
proc sgplot data=master;
title 'Scatter Plot of Population vs Suicides Number by Sex';
scatter x=population y=suicides_no / group=sex markerattrs=(symbol=circlefilled);
xaxis label='Population' grid;
yaxis label='Suicides Number' grid;
run;

/* create a box plot of suicides_no by sex */
proc sgplot data=master;
title 'Box Plot of Suicides Number by Sex';
vbox suicides_no / category=sex;
xaxis label='Sex' display=(nolabel);
yaxis label='Suicides Number' grid;
run;
```

```
*top 10 countries with highest suicice rates;

proc sort data=suicide_rates;
   by descending suicide_rate;
run;

data top_10;
   set suicide_rates (obs=10);
run;

proc print data=top_10 noobs;
   var country suicide_rate;
   title 'Top 10 Countries with the Highest Suicide Rates';
run;
```

Log: Ban130Project.sas

Notes (59)

```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69         libname ban130 "/home/u63044324/BAN 130/Project";
NOTE: Libref BAN130 was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u63044324/BAN 130/Project
70         PROC IMPORT DATAFILE='/home/u63044324/BAN 130/Project/master.csv'
71             OUT=master
72             DBMS=CSV REPLACE;
73         RUN;

NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
74          /*************************************************************************
75          *   PRODUCT:   SAS
76          *   VERSION:   9.4
77          *   CREATOR:   External File Interface
78          *   DATE:      13APR23
79          *   DESC:      Generated SAS Datastep Code
80          *   TEMPLATE SOURCE:  (None Specified.)
81          *************************************************************************/
82             data WORK.MASTER    ;
83             %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
84             infile '/home/u63044324/BAN 130/Project/master.csv' delimiter = ',' MISSOVER DSD lrecl=32767 firstobs=2 ;
85                informat country $7. ;
86                informat year best32. ;
87                informat sex $6. ;
88                informat age $11. ;
89                informat suicides_no best32. ;
90                informat population best32. ;
91                informat "suicides/100k pop"N best32. ;
92                informat "country-year"N $11. ;
93                informat "HDI for year"N $1. ;
94                informat " gdp_for_year ($)"N $15. ;
95                informat "gdp_per_capita ($)"N best32. ;
96                informat generation $15. ;
97                format country $7. ;
98                format year best12. ;
99                format sex $6. ;
100               format age $11. ;
101               format suicides_no best12. ;
102               format population best12. ;
103               format "suicides/100k pop"N best12. ;
104               format "country-year"N $11. ;
105               format "HDI for year"N $1. ;
106               format " gdp_for_year ($)"N $15. ;
107               format "gdp_per_capita ($)"N best12. ;
108               format generation $15. ;
```

```
109           input
110                       country  $
111                       year
112                       sex  $
113                       age  $
114                       suicides_no
115                       population
116                       "suicides/100k pop"N
117                       "country-year"N  $
118                       "HDI for year"N  $
119                       " gdp_for_year ($)"N  $
120                       "gdp_per_capita ($)"N
121                       generation  $
122           ;
123           if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
124           run;

NOTE: The infile '/home/u63044324/BAN 130/Project/master.csv' is:
      Filename=/home/u63044324/BAN 130/Project/master.csv,
      Owner Name=u63044324,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=13 April 2023 18:43:07,
      File Size (bytes)=2706377

NOTE: 27820 records were read from the infile '/home/u63044324/BAN 130/Project/master.csv'.
      The minimum record length was 71.
      The maximum record length was 137.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              10906.51k
      OS Memory           37408.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1037  Switch Count  2
      Page Faults                       0
      Page Reclaims                     285
      Page Swaps                        0
      Voluntary Context Switches        12
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           6160


27820 rows created in WORK.MASTER from /home/u63044324/BAN 130/Project/master.csv.



NOTE: WORK.MASTER data set was successfully created.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.15 seconds
      user cpu time       0.13 seconds
      system cpu time     0.03 seconds
      memory              10906.51k
      OS Memory           37920.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1037  Switch Count  10
      Page Faults                       0
      Page Reclaims                     5118
      Page Swaps                        0
      Voluntary Context Switches        76
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           6208


125
126        PROC PRINT DATA=master(obs=50);
127        RUN;

NOTE: There were 50 observations read from the data set WORK.MASTER.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.12 seconds
      user cpu time       0.12 seconds
      system cpu time     0.00 seconds
```

```
      memory             2856.28k
      OS Memory          32424.00k
      Timestamp          14/04/2023 12:00:44 AM
      Step Count                        1038  Switch Count  0
      Page Faults                       0
      Page Reclaims                     256
      Page Swaps                        0
      Voluntary Context Switches        0
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           40


128
129        *Identification of all the variables and thier types;
130
131        PROC CONTENTS DATA=master OUT=master_contents;
132        RUN;

NOTE: The data set WORK.MASTER_CONTENTS has 12 observations and 41 variables.
NOTE: PROCEDURE CONTENTS used (Total process time):
      real time          0.04 seconds
      user cpu time      0.05 seconds
      system cpu time    0.00 seconds
      memory             2994.09k
      OS Memory          32944.00k
      Timestamp          14/04/2023 12:00:44 AM
      Step Count                        1039  Switch Count  2
      Page Faults                       0
      Page Reclaims                     350
      Page Swaps                        0
      Voluntary Context Switches        17
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           288


133
134        PROC PRINT DATA=master_contents;
135            VAR NAME TYPE LENGTH;
136        RUN;

NOTE: There were 12 observations read from the data set WORK.MASTER_CONTENTS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.01 seconds
      user cpu time      0.02 seconds
      system cpu time    0.00 seconds
      memory             681.62k
      OS Memory          31656.00k
      Timestamp          14/04/2023 12:00:44 AM
      Step Count                        1040  Switch Count  0
      Page Faults                       0
      Page Reclaims                     64
      Page Swaps                        0
      Voluntary Context Switches        0
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


137
138        *Calculating mean and median of the suicide number variable;
139
140        PROC MEANS DATA=master;
141            VAR suicides_no;
142            OUTPUT OUT=stats MEAN=mean_mediansuicides_no MEDIAN=median_suicides_no;
143        RUN;

NOTE: There were 27820 observations read from the data set WORK.MASTER.
NOTE: The data set WORK.STATS has 1 observations and 4 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time          0.02 seconds
      user cpu time      0.02 seconds
      system cpu time    0.00 seconds
      memory             8673.15k
      OS Memory          38864.00k
      Timestamp          14/04/2023 12:00:44 AM
```

```
      Step Count                        1041  Switch Count  3
      Page Faults                       0
      Page Reclaims                     1873
      Page Swaps                        0
      Voluntary Context Switches        40
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           280


144
145        PROC PRINT DATA=stats;
146            VAR mean_mediansuicides_no median_suicides_no;
147        RUN;

NOTE: There were 1 observations read from the data set WORK.STATS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              713.06k
      OS Memory           31656.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1042  Switch Count  0
      Page Faults                       0
      Page Reclaims                     66
      Page Swaps                        0
      Voluntary Context Switches        0
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


148
149        * calculating the average rate of suicide across different countries thier graphical representation;
150
151        /* Import master.csv dataset */
152        proc import datafile="/home/u63044324/BAN 130/Project/master.csv" out=master
153            dbms=csv replace;
154            getnames=yes;
155        run;

NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
156         /*************************************************************************
157         *   PRODUCT:   SAS
158         *   VERSION:   9.4
159         *   CREATOR:   External File Interface
160         *   DATE:      13APR23
161         *   DESC:      Generated SAS Datastep Code
162         *   TEMPLATE SOURCE:  (None Specified.)
163         *************************************************************************/
164            data WORK.MASTER    ;
165            %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
166            infile '/home/u63044324/BAN 130/Project/master.csv' delimiter = ',' MISSOVER DSD lrecl=32767 firstobs=2 ;
167               informat country $7. ;
168               informat year best32. ;
169               informat sex $6. ;
170               informat age $11. ;
171               informat suicides_no best32. ;
172               informat population best32. ;
173               informat "suicides/100k pop"N best32. ;
174               informat "country-year"N $11. ;
175               informat "HDI for year"N $1. ;
176               informat " gdp_for_year ($)"N $15. ;
177               informat "gdp_per_capita ($)"N best32. ;
178               informat generation $15. ;
179               format country $7. ;
180               format year best12. ;
181               format sex $6. ;
182               format age $11. ;
183               format suicides_no best12. ;
184               format population best12. ;
185               format "suicides/100k pop"N best12. ;
186               format "country-year"N $11. ;
187               format "HDI for year"N $1. ;
188               format " gdp_for_year ($)"N $15. ;
```

```
189             format "gdp_per_capita ($)"N best12. ;
190             format generation $15. ;
191          input
192                      country  $
193                      year
194                      sex  $
195                      age  $
196                      suicides_no
197                      population
198                      "suicides/100k pop"N
199                      "country-year"N  $
200                      "HDI for year"N  $
201                      " gdp_for_year ($)"N  $
202                      "gdp_per_capita ($)"N
203                      generation  $
204          ;
205          if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
206          run;

NOTE: The infile '/home/u63044324/BAN 130/Project/master.csv' is:
      Filename=/home/u63044324/BAN 130/Project/master.csv,
      Owner Name=u63044324,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=13 April 2023 18:43:07,
      File Size (bytes)=2706377

NOTE: 27820 records were read from the infile '/home/u63044324/BAN 130/Project/master.csv'.
      The minimum record length was 71.
      The maximum record length was 137.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      user cpu time       0.03 seconds
      system cpu time     0.01 seconds
      memory              10813.53k
      OS Memory           37408.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1043  Switch Count  2
      Page Faults                       0
      Page Reclaims                     290
      Page Swaps                        0
      Voluntary Context Switches        14
      Involuntary Context Switches      35
      Block Input Operations            0
      Block Output Operations           6160


27820 rows created in WORK.MASTER from /home/u63044324/BAN 130/Project/master.csv.



NOTE: WORK.MASTER data set was successfully created.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.15 seconds
      user cpu time       0.12 seconds
      system cpu time     0.03 seconds
      memory              10813.53k
      OS Memory           37664.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1043  Switch Count  10
      Page Faults                       0
      Page Reclaims                     5079
      Page Swaps                        0
      Voluntary Context Switches        100
      Involuntary Context Switches      35
      Block Input Operations            0
      Block Output Operations           6176


207
208
209       /* Calculate average suicide count */
210       proc means data=master noprint;
211           var suicides_no;
212           output out=suicide_count_mean
213               mean=suicide_count;
```

```
214        run;

NOTE: There were 27820 observations read from the data set WORK.MASTER.
NOTE: The data set WORK.SUICIDE_COUNT_MEAN has 1 observations and 3 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.01 seconds
      user cpu time       0.01 seconds
      system cpu time     0.02 seconds
      memory              8432.18k
      OS Memory           38608.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1044  Switch Count  3
      Page Faults                       0
      Page Reclaims                     1869
      Page Swaps                        0
      Voluntary Context Switches        32
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           272


215
216        /* Print average suicide count */
217        proc print data=suicide_count_mean;
218            title 'Average Suicide Count';
219        run;

NOTE: There were 1 observations read from the data set WORK.SUICIDE_COUNT_MEAN.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              945.78k
      OS Memory           31400.00k
      Timestamp           14/04/2023 12:00:44 AM
      Step Count                        1045  Switch Count  1
      Page Faults                       0
      Page Reclaims                     67
      Page Swaps                        0
      Voluntary Context Switches        6
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


220
221        *lets calculate correlation coeficient between suicide number and year variables;
222
223        /* Import the dataset */
224        proc import datafile="/home/u63044324/BAN 130/Project/master.csv"
225                    out=master
226                    dbms=csv
227                    replace;
228                    getnames=yes;
229        run;

NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
230         /*********************************************************************
231         *   PRODUCT:   SAS
232         *   VERSION:   9.4
233         *   CREATOR:   External File Interface
234         *   DATE:      13APR23
235         *   DESC:      Generated SAS Datastep Code
236         *   TEMPLATE SOURCE:  (None Specified.)
237         *********************************************************************/
238            data WORK.MASTER    ;
239            %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
240            infile '/home/u63044324/BAN 130/Project/master.csv' delimiter = ',' MISSOVER DSD lrecl=32767 firstobs=2 ;
241               informat country $7. ;
242               informat year best32. ;
243               informat sex $6. ;
244               informat age $11. ;
245               informat suicides_no best32. ;
246               informat population best32. ;
247               informat "suicides/100k pop"N best32. ;
248               informat "country-year"N $11. ;
```

```
249              informat "HDI for year"N $1. ;
250              informat " gdp_for_year ($)"N $15. ;
251              informat "gdp_per_capita ($)"N best32. ;
252              informat generation $15. ;
253              format country $7. ;
254              format year best12. ;
255              format sex $6. ;
256              format age $11. ;
257              format suicides_no best12. ;
258              format population best12. ;
259              format "suicides/100k pop"N best12. ;
260              format "country-year"N $11. ;
261              format "HDI for year"N $1. ;
262              format " gdp_for_year ($)"N $15. ;
263              format "gdp_per_capita ($)"N best12. ;
264              format generation $15. ;
265           input
266                       country  $
267                       year
268                       sex  $
269                       age  $
270                       suicides_no
271                       population
272                       "suicides/100k pop"N
273                       "country-year"N  $
274                       "HDI for year"N  $
275                       " gdp_for_year ($)"N  $
276                       "gdp_per_capita ($)"N
277                       generation  $
278           ;
279           if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
280           run;

NOTE: The infile '/home/u63044324/BAN 130/Project/master.csv' is:
      Filename=/home/u63044324/BAN 130/Project/master.csv,
      Owner Name=u63044324,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=13 April 2023 18:43:07,
      File Size (bytes)=2706377

NOTE: 27820 records were read from the infile '/home/u63044324/BAN 130/Project/master.csv'.
      The minimum record length was 71.
      The maximum record length was 137.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: DATA statement used (Total process time):
      real time           0.03 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              10682.31k
      OS Memory           37408.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                        1046  Switch Count  2
      Page Faults                       0
      Page Reclaims                     275
      Page Swaps                        0
      Voluntary Context Switches        12
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           6160


27820 rows created in WORK.MASTER from /home/u63044324/BAN 130/Project/master.csv.



NOTE: WORK.MASTER data set was successfully created.
NOTE: The data set WORK.MASTER has 27820 observations and 12 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.13 seconds
      user cpu time       0.12 seconds
      system cpu time     0.02 seconds
      memory              10682.31k
      OS Memory           37920.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                        1046  Switch Count  9
      Page Faults                       0
      Page Reclaims                     5175
```

```
      Page Swaps                       0
      Voluntary Context Switches       81
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          6176


281
282       /* Calculate correlation coefficients */
283       proc corr data=master;
284           var suicides_no year;
285       run;

NOTE: PROCEDURE CORR used (Total process time):
      real time           0.03 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              2521.37k
      OS Memory           32424.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                       1047  Switch Count  0
      Page Faults                      0
      Page Reclaims                    246
      Page Swaps                       0
      Voluntary Context Switches       0
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          0


286
287       * Lets see the demographic analysis;
288
289
290       /* create a new dataset that groups the data by age group and gender */
291       proc sql;
292       create table suicide_by_demographics as
293       select age, sex, sum(suicides_no) as total_suicides
294       from master
295       group by age, sex;
NOTE: Table WORK.SUICIDE_BY_DEMOGRAPHICS created, with 12 rows and 3 columns.

296       quit;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.02 seconds
      user cpu time       0.02 seconds
      system cpu time     0.01 seconds
      memory              7063.62k
      OS Memory           37548.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                       1048  Switch Count  2
      Page Faults                      0
      Page Reclaims                    998
      Page Swaps                       0
      Voluntary Context Switches       44
      Involuntary Context Switches     1
      Block Input Operations           0
      Block Output Operations          272


297
298       /* create a bar chart of the total suicides by age group and gender */
299       proc sgplot data=suicide_by_demographics;
300       vbar age / group=sex response=total_suicides groupdisplay=cluster;
301       xaxis display=(nolabel);
302       yaxis grid;
303       run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.11 seconds
      user cpu time       0.05 seconds
      system cpu time     0.02 seconds
      memory              8355.56k
      OS Memory           37680.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                       1049  Switch Count  2
      Page Faults                      0
```

```
      Page Reclaims                    1641
      Page Swaps                       0
      Voluntary Context Switches       227
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          616

NOTE: There were 12 observations read from the data set WORK.SUICIDE_BY_DEMOGRAPHICS.

304
305
306       /* create a new dataset that groups the data by age group and gender */
307       proc sql;
308       create table suicide_by_demographics as
309       select age, sex, sum(suicides_no) as total_suicides
310       from master
311       group by age, sex;
NOTE: Table WORK.SUICIDE_BY_DEMOGRAPHICS created, with 12 rows and 3 columns.

312       quit;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.01 seconds
      user cpu time       0.00 seconds
      system cpu time     0.01 seconds
      memory              7062.81k
      OS Memory           42668.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                       1050  Switch Count  2
      Page Faults                      0
      Page Reclaims                    1069
      Page Swaps                       0
      Voluntary Context Switches       43
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          264


313
314       /* create a bar chart of the total suicides by age group and gender */
315       proc sgplot data=suicide_by_demographics;
316       title 'Total Suicides by Age Group and Gender';
317       vbar age / group=sex response=total_suicides groupdisplay=cluster;
318       xaxis display=(nolabel);
319       yaxis grid;
320       run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.10 seconds
      user cpu time       0.04 seconds
      system cpu time     0.01 seconds
      memory              2215.68k
      OS Memory           38572.00k
      Timestamp           14/04/2023 12:00:45 AM
      Step Count                       1051  Switch Count  3
      Page Faults                      0
      Page Reclaims                    495
      Page Swaps                       0
      Voluntary Context Switches       226
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          376

NOTE: There were 12 observations read from the data set WORK.SUICIDE_BY_DEMOGRAPHICS.

321
322       /* create a scatter plot of population vs suicides_no */
323       proc sgplot data=master;
324       title 'Scatter Plot of Population vs Suicides Number by Sex';
325       scatter x=population y=suicides_no / group=sex markerattrs=(symbol=circlefilled);
326       xaxis label='Population' grid;
327       yaxis label='Suicides Number' grid;
328       run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           3.16 seconds
      user cpu time       1.66 seconds
      system cpu time     0.39 seconds
```

```
      memory             3511.75k
      OS Memory          39476.00k
      Timestamp          14/04/2023 12:00:48 AM
      Step Count                        1052  Switch Count  2
      Page Faults                       0
      Page Reclaims                     604
      Page Swaps                        0
      Voluntary Context Switches        83599
      Involuntary Context Switches      2
      Block Input Operations            0
      Block Output Operations           400

NOTE: Marker and line antialiasing has been disabled for at least one plot because the threshold has been reached. You can set
      ANTIALIASMAX=27900 in the ODS GRAPHICS statement to enable antialiasing for all plots.
NOTE: There were 27820 observations read from the data set WORK.MASTER.

329
330        /* create a box plot of suicides_no by sex */
331        proc sgplot data=master;
332        title 'Box Plot of Suicides Number by Sex';
333        vbox suicides_no / category=sex;
334        xaxis label='Sex' display=(nolabel);
335        yaxis label='Suicides Number' grid;
336        run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time          0.90 seconds
      user cpu time      0.47 seconds
      system cpu time    0.08 seconds
      memory             4701.12k
      OS Memory          41648.00k
      Timestamp          14/04/2023 12:00:49 AM
      Step Count                        1053  Switch Count  10
      Page Faults                       0
      Page Reclaims                     1573
      Page Swaps                        0
      Voluntary Context Switches        21573
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           4032

NOTE: There were 27820 observations read from the data set WORK.MASTER.

337
338        *top 10 countries with highest suicice rates;
339
340        proc sort data=suicide_rates;
341           by descending suicide_rate;
342        run;

NOTE: Input data set is already sorted, no sorting done.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.00 seconds
      user cpu time      0.00 seconds
      system cpu time    0.00 seconds
      memory             425.84k
      OS Memory          38056.00k
      Timestamp          14/04/2023 12:00:49 AM
      Step Count                        1054  Switch Count  0
      Page Faults                       0
      Page Reclaims                     50
      Page Swaps                        0
      Voluntary Context Switches        0
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


343
344        data top_10;
345           set suicide_rates (obs=10);
346        run;

NOTE: There were 10 observations read from the data set WORK.SUICIDE_RATES.
NOTE: The data set WORK.TOP_10 has 10 observations and 5 variables.
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
```

```
      user cpu time       0.00 seconds
      system cpu time     0.01 seconds
      memory              953.43k
      OS Memory           38316.00k
      Timestamp           14/04/2023 12:00:49 AM
      Step Count                        1055  Switch Count  2
      Page Faults                       0
      Page Reclaims                     127
      Page Swaps                        0
      Voluntary Context Switches        11
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


347
348        proc print data=top_10 noobs;
349           var country suicide_rate;
350           title 'Top 10 Countries with the Highest Suicide Rates';
351        run;

NOTE: There were 10 observations read from the data set WORK.TOP_10.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              771.15k
      OS Memory           37800.00k
      Timestamp           14/04/2023 12:00:49 AM
      Step Count                        1056  Switch Count  1
      Page Faults                       0
      Page Reclaims                     65
      Page Swaps                        0
      Voluntary Context Switches        6
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


352
353
354
355        OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
365
```

Results: Ban130Project.sas

Obs	country	year	sex	age	suicides_no	population	suicides/100k pop	country-year	HDI for year	gdp_for_year ($)	gdp_per_capita ($)	generation
1	Albania	1987	male	15-24 years	21	312900	6.71	Albania1987		2,156,624,900	796	Generation X
2	Albania	1987	male	35-54 years	16	308000	5.19	Albania1987		2,156,624,900	796	Silent
3	Albania	1987	female	15-24 years	14	289700	4.83	Albania1987		2,156,624,900	796	Generation X
4	Albania	1987	male	75+ years	1	21800	4.59	Albania1987		2,156,624,900	796	G.I. Generation
5	Albania	1987	male	25-34 years	9	274300	3.28	Albania1987		2,156,624,900	796	Boomers
6	Albania	1987	female	75+ years	1	35600	2.81	Albania1987		2,156,624,900	796	G.I. Generation
7	Albania	1987	female	35-54 years	6	278800	2.15	Albania1987		2,156,624,900	796	Silent
8	Albania	1987	female	25-34 years	4	257200	1.56	Albania1987		2,156,624,900	796	Boomers
9	Albania	1987	male	55-74 years	1	137500	0.73	Albania1987		2,156,624,900	796	G.I. Generation
10	Albania	1987	female	5-14 years	0	311000	0	Albania1987		2,156,624,900	796	Generation X
11	Albania	1987	female	55-74 years	0	144600	0	Albania1987		2,156,624,900	796	G.I. Generation
12	Albania	1987	male	5-14 years	0	338200	0	Albania1987		2,156,624,900	796	Generation X
13	Albania	1988	female	75+ years	2	36400	5.49	Albania1988		2,126,000,000	769	G.I. Generation
14	Albania	1988	male	15-24 years	17	319200	5.33	Albania1988		2,126,000,000	769	Generation X
15	Albania	1988	male	75+ years	1	22300	4.48	Albania1988		2,126,000,000	769	G.I. Generation
16	Albania	1988	male	35-54 years	14	314100	4.46	Albania1988		2,126,000,000	769	Silent
17	Albania	1988	male	55-74 years	4	140200	2.85	Albania1988		2,126,000,000	769	G.I. Generation
18	Albania	1988	female	15-24 years	8	295600	2.71	Albania1988		2,126,000,000	769	Generation X
19	Albania	1988	female	55-74 years	3	147500	2.03	Albania1988		2,126,000,000	769	G.I. Generation
20	Albania	1988	female	25-34 years	5	262400	1.91	Albania1988		2,126,000,000	769	Boomers
21	Albania	1988	male	25-34 years	5	279900	1.79	Albania1988		2,126,000,000	769	Boomers
22	Albania	1988	female	35-54 years	4	284500	1.41	Albania1988		2,126,000,000	769	Silent
23	Albania	1988	female	5-14 years	0	317200	0	Albania1988		2,126,000,000	769	Generation X
24	Albania	1988	male	5-14 years	0	345000	0	Albania1988		2,126,000,000	769	Generation X
25	Albania	1989	male	75+ years	2	22500	8.89	Albania1989		2,335,124,988	833	G.I. Generation
26	Albania	1989	male	25-34 years	18	283600	6.35	Albania1989		2,335,124,988	833	Boomers

Obs	country	year	sex	age	suicides_no	population	suicides/100k pop	country-year	HDI for year	gdp_for_year ($)	gdp_per_capita ($)	generation
27	Albania	1989	male	35-54 years	15	318400	4.71	Albania1989		2,335,124,988	833	Silent
28	Albania	1989	male	55-74 years	6	142100	4.22	Albania1989		2,335,124,988	833	G.I. Generation
29	Albania	1989	male	15-24 years	12	323500	3.71	Albania1989		2,335,124,988	833	Generation X
30	Albania	1989	female	35-54 years	7	288600	2.43	Albania1989		2,335,124,988	833	Silent
31	Albania	1989	female	15-24 years	5	299900	1.67	Albania1989		2,335,124,988	833	Generation X
32	Albania	1989	female	25-34 years	2	266300	0.75	Albania1989		2,335,124,988	833	Boomers
33	Albania	1989	female	55-74 years	1	149600	0.67	Albania1989		2,335,124,988	833	G.I. Generation
34	Albania	1989	female	5-14 years	0	321900	0	Albania1989		2,335,124,988	833	Generation X
35	Albania	1989	female	75+ years	0	37000	0	Albania1989		2,335,124,988	833	G.I. Generation
36	Albania	1989	male	5-14 years	0	349700	0	Albania1989		2,335,124,988	833	Generation X
37	Albania	1992	male	35-54 years	12	343800	3.49	Albania1992		709,452,584	251	Boomers
38	Albania	1992	male	15-24 years	9	263700	3.41	Albania1992		709,452,584	251	Generation X
39	Albania	1992	male	55-74 years	5	159500	3.13	Albania1992		709,452,584	251	Silent
40	Albania	1992	male	25-34 years	7	245500	2.85	Albania1992		709,452,584	251	Boomers
41	Albania	1992	female	15-24 years	7	292400	2.39	Albania1992		709,452,584	251	Generation X
42	Albania	1992	female	25-34 years	4	267400	1.5	Albania1992		709,452,584	251	Boomers
43	Albania	1992	female	35-54 years	2	323100	0.62	Albania1992		709,452,584	251	Boomers
44	Albania	1992	female	55-74 years	1	164900	0.61	Albania1992		709,452,584	251	Silent
45	Albania	1992	female	5-14 years	0	336700	0	Albania1992		709,452,584	251	Millenials
46	Albania	1992	female	75+ years	0	38700	0	Albania1992		709,452,584	251	G.I. Generation
47	Albania	1992	male	5-14 years	0	362900	0	Albania1992		709,452,584	251	Millenials
48	Albania	1992	male	75+ years	0	23900	0	Albania1992		709,452,584	251	G.I. Generation
49	Albania	1993	male	15-24 years	18	243300	7.4	Albania1993		1,228,071,038	437	Generation X
50	Albania	1993	male	55-74 years	7	165000	4.24	Albania1993		1,228,071,038	437	Silent

The CONTENTS Procedure

Data Set Name	WORK.MASTER	**Observations**	27820
Member Type	DATA	**Variables**	12
Engine	V9	**Indexes**	0
Created	13/04/2023 20:00:45	**Observation Length**	112
Last Modified	13/04/2023 20:00:45	**Deleted Observations**	0
Protection		**Compressed**	NO
Data Set Type		**Sorted**	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	24
First Data Page	1
Max Obs per Page	1168
Obs in First Data Page	1138
Number of Data Set Repairs	0
Filename	/saswork/SAS_workCF500000827B_odaws02-usw2-2.oda.sas.com/SAS_workBFB40000827B_odaws02-usw2-2.oda.sas.com/master.sas7bdat
Release Created	9.0401M7
Host Created	Linux
Inode Number	1744836175
Access Permission	rw-r--r--
Owner Name	u63044324
File Size	3MB
File Size (bytes)	3276800

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Informat
10	gdp_for_year ($)	Char	15	$15.	$15.
9	HDI for year	Char	1	$1.	$1.
4	age	Char	11	$11.	$11.
1	country	Char	7	$7.	$7.
8	country-year	Char	11	$11.	$11.
11	gdp_per_capita ($)	Num	8	BEST12.	BEST32.
12	generation	Char	15	$15.	$15.
6	population	Num	8	BEST12.	BEST32.
3	sex	Char	6	$6.	$6.
7	suicides/100k pop	Num	8	BEST12.	BEST32.
5	suicides_no	Num	8	BEST12.	BEST32.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
2	year	Num	8	BEST12.	BEST32.

Obs	NAME	TYPE	LENGTH
1	gdp_for_year ($)	2	15
2	HDI for year	2	1
3	age	2	11
4	country	2	7
5	country-year	2	11
6	gdp_per_capita ($)	1	8
7	generation	2	15
8	population	1	8
9	sex	2	6
10	suicides/100k pop	1	8
11	suicides_no	1	8
12	year	1	8

The MEANS Procedure

Analysis Variable : suicides_no				
N	Mean	Std Dev	Minimum	Maximum
27820	242.5744069	902.0479168	0	22338.00

Obs	mean_mediansuicides_no	median_suicides_no
1	242.5744069	25

Average Suicide Count

Obs	_TYPE_	_FREQ_	suicide_count
1	0	27820	242.5744069

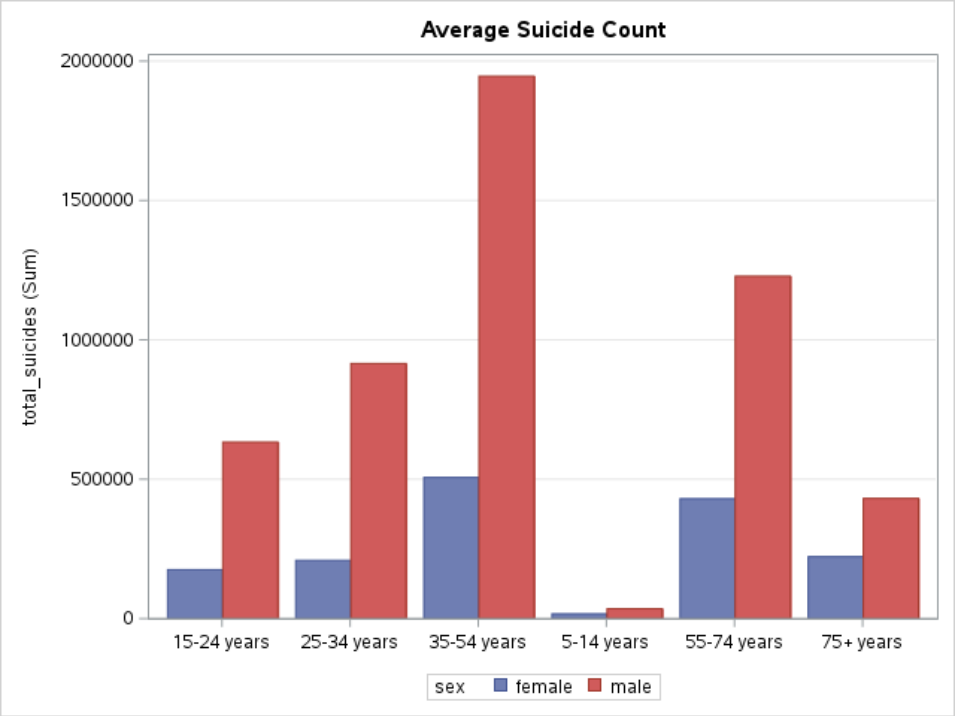
Average Suicide Count

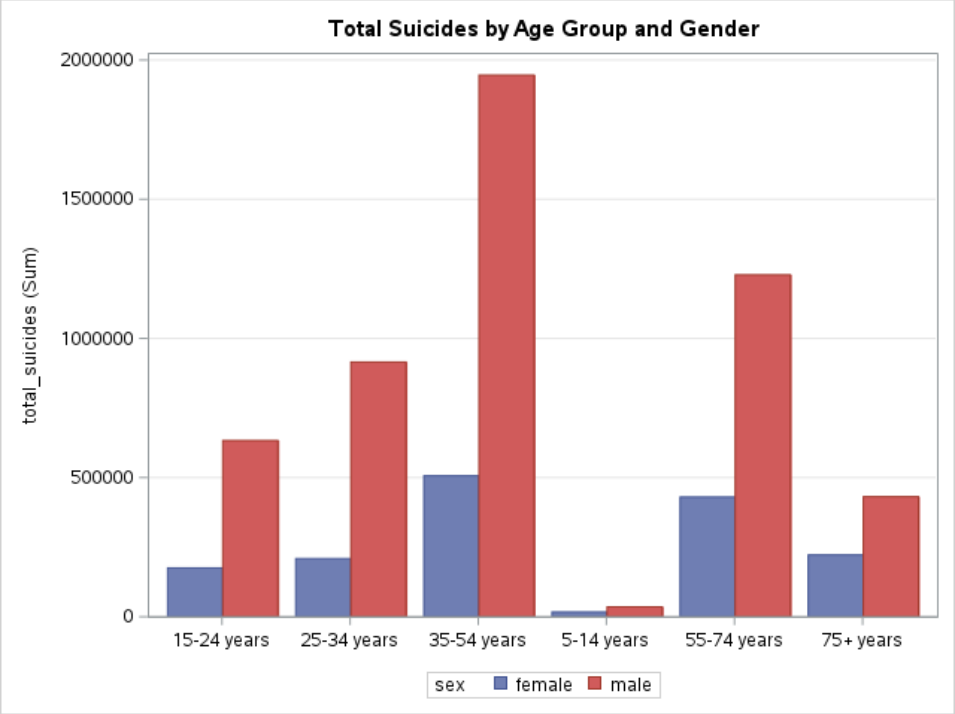
The CORR Procedure

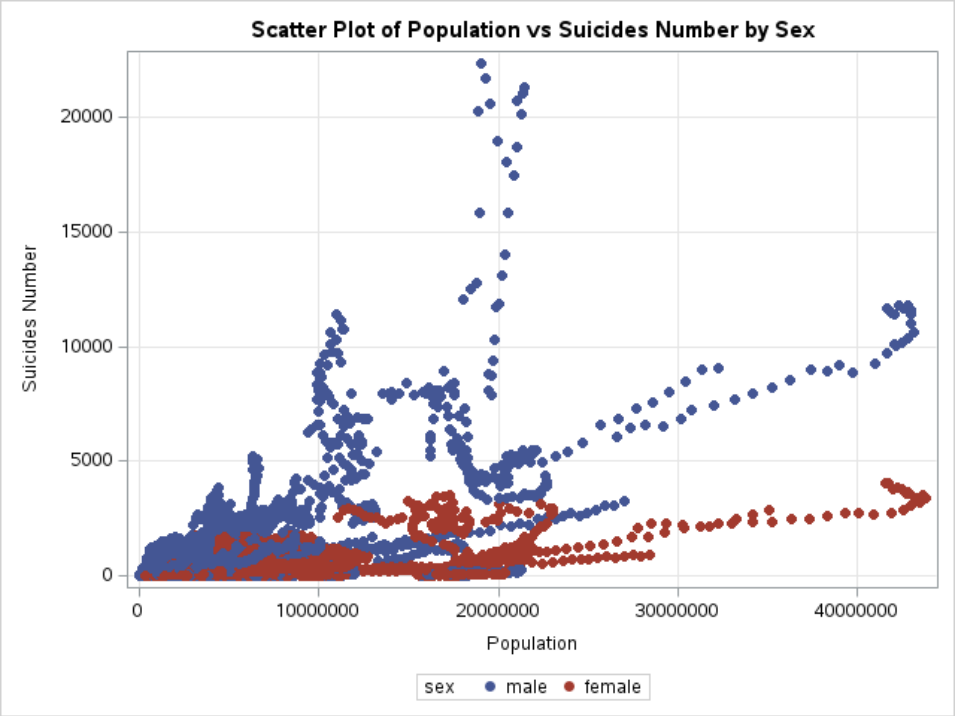
2 Variables:	suicides_no year

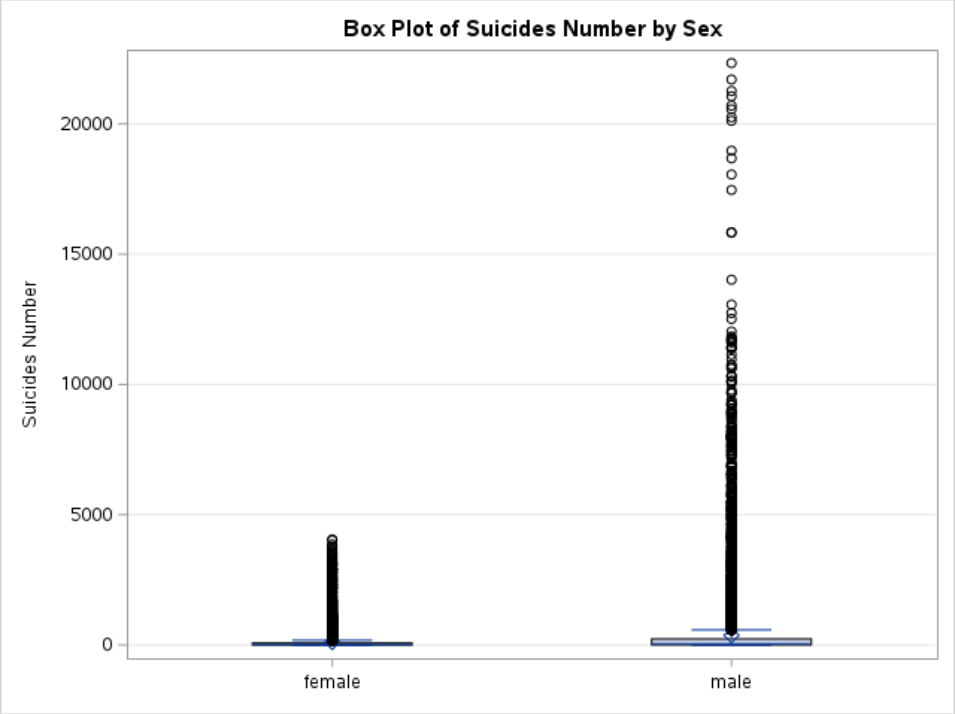
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
suicides_no	27820	242.57441	902.04792	6748420	0	22338
year	27820	2001	8.46906	55675008	1985	2016

Pearson Correlation Coefficients, N = 27820 Prob > |r| under H0: Rho=0		
	suicides_no	year
suicides_no	1.00000	-0.00455 0.4483
year	-0.00455 0.4483	1.00000


Average Suicide Count
2000000
1500000
1000000
500000
0
total_suicides (Sum)
15-24 years
25-34 years
35-54 years
5-14 years
55-74 years
75+ years
sex
female
male


Total Suicides by Age Group and Gender
2000000
1500000
1000000
500000
0
total_suicides (Sum)
15-24 years
25-34 years
35-54 years
5-14 years
55-74 years
75+ years
sex
female
male





Top 10 Countries with the Highest Suicide Rates

country	suicide_rate
Lithuan	.000510198
Lithuan	.000500126
Lithuan	.000491987
Lithuan	.000485097
Lithuan	.000473662
Lithuan	.000465372
Lithuan	.000464983
Lithuan	.000463447
Lithuan	.000447125
Russian	.000443542