```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69         *----------------------------------------*
70         /*Problem 1 - Export Dataset             */
71         *----------------------------------------*
72         *Part 1*;
73         LIBNAME  Week2 '/home/u63559709/sasuser.v94/Week 2';
NOTE: Libref WEEK2 was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u63559709/sasuser.v94/Week 2
74
75         *Part 2*;
76         DATA death_count;
77             INFILE '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv' DSD FIRSTOBS=2;
78             INPUT year month gender $ age ICD10 $ death;
79         RUN;

NOTE: The infile '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv' is:
      Filename=/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv,
      Owner Name=u63559709,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=07Sep2023:09:19:31,
      File Size (bytes)=631470

NOTE: 33264 records were read from the infile '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv'.
      The minimum record length was 15.
      The maximum record length was 22.
NOTE: The data set WORK.DEATH_COUNT has 33264 observations and 6 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      user cpu time       0.01 seconds
      system cpu time     0.01 seconds
      memory              2069.06k
      OS Memory           26792.00k
      Timestamp           09/08/2023 07:28:06 PM
      Step Count                    286  Switch Count  2
      Page Faults                   0
      Page Reclaims                 206
      Page Swaps                    0
      Voluntary Context Switches    20
      Involuntary Context Switches  0
      Block Input Operations        1240
      Block Output Operations       3336


80
81         PROC PRINT DATA = death_count;
82         TITLE 'Save Permanent DataSet';
83         RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           24.62 seconds
      user cpu time       24.52 seconds
      system cpu time     0.05 seconds
      memory              2721.84k
      OS Memory           27048.00k
      Timestamp           09/08/2023 07:28:31 PM
      Step Count                    287  Switch Count  1
      Page Faults                   0
      Page Reclaims                 324
      Page Swaps                    0
      Voluntary Context Switches    12
      Involuntary Context Switches  375
      Block Input Operations        0
      Block Output Operations       14008


84
85         *Part 3*;
86         LIBNAME Week2 '/home/u63559709/sasuser.v94/Week 2';
NOTE: Libref WEEK2 was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u63559709/sasuser.v94/Week 2
87         DATA death_2015;
88             SET Week2.death_count;
89             WHERE year=2015;
90         RUN;
```

```
NOTE: There were 5544 observations read from the data set WEEK2.DEATH_COUNT.
      WHERE year=2015;
NOTE: The data set WORK.DEATH_2015 has 5544 observations and 6 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                2395.21k
      OS Memory             27308.00k
      Timestamp             09/08/2023 07:28:31 PM
      Step Count                        288  Switch Count  5
      Page Faults                       0
      Page Reclaims                     318
      Page Swaps                        0
      Voluntary Context Switches        35
      Involuntary Context Switches      0
      Block Input Operations            3368
      Block Output Operations           784


91
92          PROC PRINT DATA = death_2015;
93          TITLE 'Read Permanent Dataset';
94          RUN;

NOTE: There were 5544 observations read from the data set WORK.DEATH_2015.
NOTE: PROCEDURE PRINT used (Total process time):
      real time             4.05 seconds
      user cpu time         4.06 seconds
      system cpu time       0.01 seconds
      memory                1027.46k
      OS Memory             26408.00k
      Timestamp             09/08/2023 07:28:35 PM
      Step Count                        289  Switch Count  1
      Page Faults                       0
      Page Reclaims                     104
      Page Swaps                        0
      Voluntary Context Switches        8
      Involuntary Context Switches      2
      Block Input Operations            0
      Block Output Operations           2336


95
96          *Part 4*;
97          PROC EXPORT DATA = death_2015
98          OUTFILE ='/home/u63559709/sasuser.v94/Week 2/death2015'
99              dbms=csv
100             replace;
101         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.
102         /*******************************************************************
103         *   PRODUCT:   SAS
104         *   VERSION:   9.4
105         *   CREATOR:   External File Interface
106         *   DATE:      08SEP23
107         *   DESC:      Generated SAS Datastep Code
108         *   TEMPLATE SOURCE:  (None Specified.)
109         *******************************************************************/
110             data _null_;
111             %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
112             %let _EFIREC_ = 0;     /* clear export record count macro variable */
113             file '/home/u63559709/sasuser.v94/Week 2/death2015' delimiter=',' DSD DROPOVER lrecl=32767;
114             if _n_ = 1 then        /* write column names or labels */
115              do;
116                put
117                   "year"
118                ','
119                   "month"
120                ','
121                   "gender"
122                ','
123                   "age"
124                ','
125                   "ICD10"
126                ','
127                   "death"
128                ;
```

```
129              end;
130          set  DEATH_2015   end=EFIEOD;
131              format year best12. ;
132              format month best12. ;
133              format gender $8. ;
134              format age best12. ;
135              format ICD10 $8. ;
136              format death best12. ;
137            do;
138              EFIOUT + 1;
139              put year @;
140              put month @;
141              put gender $ @;
142              put age @;
143              put ICD10 $ @;
144              put death ;
145              ;
146            end;
147          if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
148          if EFIEOD then call symputx('_EFIREC_',EFIOUT);
149          run;
```

NOTE: The file '/home/u63559709/sasuser.v94/Week 2/death2015' is:
      Filename=/home/u63559709/sasuser.v94/Week 2/death2015,
      Owner Name=u63559709,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=08Sep2023:15:28:35

NOTE: 5545 records were written to the file '/home/u63559709/sasuser.v94/Week 2/death2015'.
      The minimum record length was 15.
      The maximum record length was 33.
NOTE: There were 5544 observations read from the data set WORK.DEATH_2015.
NOTE: DATA statement used (Total process time):
      real time   0.02 seconds
      user cpu time   0.01 seconds
      system cpu time   0.00 seconds
      memory   9571.29k
      OS Memory   33180.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   290 Switch Count 0
      Page Faults   1
      Page Reclaims   168
      Page Swaps   0
      Voluntary Context Switches   12
      Involuntary Context Switches   1
      Block Input Operations   64
      Block Output Operations   208

   5544 records created in /home/u63559709/sasuser.v94/Week 2/death2015 from DEATH_2015.

NOTE: "/home/u63559709/sasuser.v94/Week 2/death2015" file was successfully created.
NOTE: PROCEDURE EXPORT used (Total process time):
      real time   0.07 seconds
      user cpu time   0.03 seconds
      system cpu time   0.01 seconds
      memory   9571.29k
      OS Memory   33440.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   290 Switch Count 8
      Page Faults   15
      Page Reclaims   1652
      Page Swaps   0
      Voluntary Context Switches   107
      Involuntary Context Switches   1
      Block Input Operations   2832
      Block Output Operations   256


```
150
151          *----------------------------------------*
152          /*Problem 2 - PROC MEANS                 */
153          *----------------------------------------*
154          *Part 1*;
155          DATA death_count;
156              INFILE '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv' DSD FIRSTOBS=2;
157              INPUT year month gender $ age ICD10 $ death;
158          RUN;
```

NOTE: The infile '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv' is:
      Filename=/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv,
      Owner Name=u63559709,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=07Sep2023:09:19:31,
      File Size (bytes)=631470

NOTE: 33264 records were read from the infile '/home/u63559709/sasuser.v94/Week 2/2010-2015-Age65above Final Death Count.csv'.
      The minimum record length was 15.
      The maximum record length was 22.
NOTE: The data set WORK.DEATH_COUNT has 33264 observations and 6 variables.
NOTE: DATA statement used (Total process time):
      real time   0.02 seconds
      user cpu time   0.02 seconds
      system cpu time   0.00 seconds
      memory   2082.46k
      OS Memory   28840.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   291 Switch Count 2
      Page Faults   0
      Page Reclaims   173
      Page Swaps   0
      Voluntary Context Switches   15
      Involuntary Context Switches   2
      Block Input Operations   0
      Block Output Operations   3336

159
160   *Part 2*;
161   PROC MEANS DATA=death_count SUM;
162   CLASS year;
163   VAR death;
164   OUTPUT OUT=yearly_death_sum SUM(death)=total_deaths;
165   RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.YEARLY_DEATH_SUM has 7 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   10703.85k
      OS Memory   36544.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   292 Switch Count 3
      Page Faults   1
      Page Reclaims   2124
      Page Swaps   0
      Voluntary Context Switches   32
      Involuntary Context Switches   1
      Block Input Operations   88
      Block Output Operations   272

166
167   *Part 3*;
168   PROC MEANS DATA=death_count MEAN STD;
169   CLASS month;
170   VAR death;
171   OUTPUT OUT=death_by_month MEAN(death)=avg_deaths STD(death)=std_deaths;
172   RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.DEATH_BY_MONTH has 13 observations and 5 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   10543.79k
      OS Memory   36800.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   293 Switch Count 3
      Page Faults   0
      Page Reclaims   2095
      Page Swaps   0
      Voluntary Context Switches   27
      Involuntary Context Switches   0
      Block Input Operations   8
      Block Output Operations   264

```
173
174        *Part 4*;
175        PROC SORT DATA=death_count;
176            BY gender;
177        RUN;
```

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.DEATH_COUNT has 33264 observations and 6 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time   0.01 seconds
      user cpu time   0.01 seconds
      system cpu time   0.00 seconds
      memory   5855.09k
      OS Memory   32708.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   294 Switch Count 2
      Page Faults   0
      Page Reclaims   883
      Page Swaps   0
      Voluntary Context Switches   15
      Involuntary Context Switches 0
      Block Input Operations   0
      Block Output Operations   3336


```
178
179        PROC MEANS DATA=death_count SUM;
180            BY gender;
181            VAR death;
182            OUTPUT OUT=gender_death_sum SUM=total_deaths;
183        RUN;
```

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.GENDER_DEATH_SUM has 2 observations and 4 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time   0.01 seconds
      user cpu time   0.01 seconds
      system cpu time   0.01 seconds
      memory   3418.15k
      OS Memory   30384.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   295 Switch Count 4
      Page Faults   0
      Page Reclaims   451
      Page Swaps   0
      Voluntary Context Switches   20
      Involuntary Context Switches 0
      Block Input Operations   8
      Block Output Operations   264


```
184
185        *----------------------------------------*
186        /*Problem 3 - PROC FREQ              */
187        *----------------------------------------*
188        *Part 1*;
189        PROC FREQ DATA=death_count;
190            TABLES year / NOPRINT OUT=year_freq;
191        RUN;
```

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.YEAR_FREQ has 6 observations and 3 variables.
NOTE: PROCEDURE FREQ used (Total process time):
      real time   0.00 seconds
      user cpu time   0.00 seconds
      system cpu time   0.00 seconds
      memory   2457.75k
      OS Memory   29616.00k
      Timestamp   09/08/2023 07:28:35 PM
      Step Count   296 Switch Count 4
      Page Faults   1
      Page Reclaims   381
      Page Swaps   0
      Voluntary Context Switches   31
      Involuntary Context Switches 0
      Block Input Operations   176
      Block Output Operations   528

```
192
193          PROC FREQ DATA=death_count;
194              TABLES gender / NOPRINT OUT=gender_freq;
195          RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.GENDER_FREQ has 2 observations and 3 variables.
NOTE: PROCEDURE FREQ used (Total process time):
      real time          0.00 seconds
      user cpu time      0.01 seconds
      system cpu time    0.00 seconds
      memory             2502.12k
      OS Memory          29616.00k
      Timestamp          09/08/2023 07:28:35 PM
      Step Count                      297  Switch Count  4
      Page Faults                     0
      Page Reclaims                   382
      Page Swaps                      0
      Voluntary Context Switches      37
      Involuntary Context Switches    0
      Block Input Operations          8
      Block Output Operations         528


196
197          *Part 2*;
198          PROC FREQ DATA=death_count;
199              TABLES gender*month / NOPRINT OUT=gender_month_freq;
200          RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: The data set WORK.GENDER_MONTH_FREQ has 24 observations and 4 variables.
NOTE: PROCEDURE FREQ used (Total process time):
      real time          0.00 seconds
      user cpu time      0.01 seconds
      system cpu time    0.00 seconds
      memory             3306.40k
      OS Memory          30396.00k
      Timestamp          09/08/2023 07:28:35 PM
      Step Count                      298  Switch Count  10
      Page Faults                     0
      Page Reclaims                   580
      Page Swaps                      0
      Voluntary Context Switches      50
      Involuntary Context Switches    0
      Block Input Operations          8
      Block Output Operations         1320


201
202          PROC PRINT DATA=gender_month_freq;
203          TITLE '2-way Frequency';
204          RUN;

NOTE: There were 24 observations read from the data set WORK.GENDER_MONTH_FREQ.
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             719.40k
      OS Memory          28328.00k
      Timestamp          09/08/2023 07:28:35 PM
      Step Count                      299  Switch Count  1
      Page Faults                     0
      Page Reclaims                   67
      Page Swaps                      0
      Voluntary Context Switches      9
      Involuntary Context Switches    0
      Block Input Operations          0
      Block Output Operations         16


205
206          *----------------------------------------*
207          /*Problem 4 - PROC TABULAT            */
208          *----------------------------------------*
209          *Part 1*;
210          PROC TABULATE DATA=death_count;
211              CLASS year gender month;
```

```
212            VAR death;
213            TABLE year,
214                  gender ALL,
215                  (month ALL)*death*(mean sum) / BOX='Death';
216        RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: PROCEDURE TABULATE used (Total process time):
      real time           0.11 seconds
      user cpu time       0.11 seconds
      system cpu time     0.01 seconds
      memory              10777.75k
      OS Memory           37068.00k
      Timestamp           09/08/2023 07:28:35 PM
      Step Count                        300  Switch Count  9
      Page Faults                       0
      Page Reclaims                     2296
      Page Swaps                        0
      Voluntary Context Switches        107
      Involuntary Context Switches      38
      Block Input Operations            0
      Block Output Operations           1168


217
218        *Part 2*;
219        PROC TABULATE DATA=death_count;
220            CLASS year gender month;
221            VAR death;
222            TABLE year*gender,
223                  (month)*death*(mean sum) / BOX='Death';
224        RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: PROCEDURE TABULATE used (Total process time):
      real time           0.05 seconds
      user cpu time       0.05 seconds
      system cpu time     0.00 seconds
      memory              10237.00k
      OS Memory           36548.00k
      Timestamp           09/08/2023 07:28:35 PM
      Step Count                        301  Switch Count  5
      Page Faults                       0
      Page Reclaims                     2045
      Page Swaps                        0
      Voluntary Context Switches        63
      Involuntary Context Switches      13
      Block Input Operations            0
      Block Output Operations           584


225
226        *----------------------------------------*
227        /*Problem 5 - PROC REPORT               */
228        *----------------------------------------*
229        *Part 1*;
230        PROC REPORT DATA = death_count NOWINDOWS;
231            COLUMN gender month death avg_death;
232            DEFINE gender / GROUP;
233            DEFINE month / GROUP;
234            DEFINE death / SUM 'Total Deaths';
235            DEFINE avg_death / COMPUTED 'Average Deaths';
236            COMPUTE avg_death;
237                avg_death = death.sum / 6;
238            ENDCOMP;
239            TITLE 'PROC REPORT';
240        RUN;

NOTE: There were 33264 observations read from the data set WORK.DEATH_COUNT.
NOTE: PROCEDURE REPORT used (Total process time):
      real time           0.02 seconds
      user cpu time       0.02 seconds
      system cpu time     0.01 seconds
      memory              10523.81k
      OS Memory           37820.00k
      Timestamp           09/08/2023 07:28:36 PM
      Step Count                        302  Switch Count  2
      Page Faults                       0
      Page Reclaims                     2110
      Page Swaps                        0
```

Voluntary Context Switches   43
Involuntary Context Switches   0
Block Input Operations   0
Block Output Operations   0

241
242
243   OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
253