```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
NOTE: ODS statements in the SAS Studio environment may disable some output features.
62
63
/*************************************************************************
********/
64         /* Program Name:     pulkit.jain_HW15.sas    */
65         /* Program Location: C:\Users\Pulkit
Jain\Documents\sasuniversityedition\myfolders\assign15 */
66         /* Date Created:     11/27/2017          */
67         /* Author:  Pulkit Jain                  */
68         /* Purpose:   Assignment 15, User Defined Formats    */
69
/*************************************************************************
********/
70
71         /* 1 Use a fileref to access CSV file, include headers*/
72         /* Create two libname statements;   */
73         /* Assign library to locaion of hw data with access only; */
74         /* Assign another library with read and write access;     */
75
76
77         filename schools '/folders/myfolders/hw_data/OKSchools.csv';
78
79         libname hw_data '/folders/myfolders/hw_data' access=readonly;
NOTE: Libref HW_DATA was successfully assigned as follows:
      Engine:        V9
      Physical Name: /folders/myfolders/hw_data
80         libname pulkit15 '/folders/myfolders/assign15';
NOTE: Libref PULKIT15 was successfully assigned as follows:
      Engine:        V9
      Physical Name: /folders/myfolders/assign15
81
82         /* Specify a fileref to designate output of pdf */
83
84         filename HW15 '/folders/myfolders/assign15/pulkit.jain_HW15_output.pdf';
85
86         /* 2 Create Output with landscape orientation */
87         /* Display date on the final section of the output */
88         /* SAS output should start on page number 2 */
89
90         ods pdf file = HW15 bookmarkgen=yes ;
NOTE: Writing ODS PDF output to DISK destination "HW15", printer "PDF".
91         options orientation = landscape pageno=2 date=NO;
92
93         /* 3 Create a format to display school division based on number of
students on HSTotal */
94         /* Division is a label to show number of students size */
95
96         /* 4 Create a second format within the same procedure for STRatio */
97
98         proc format;
99
99       !  value Div_fmt  0-69 = 'B'
100          70-106 = 'A'
101          107-180 = '2A'
102          181-374 = '3A'
103          375-720 = '4A'
104          721-1250 = '5A'
```

```
105           1251-high = '6A'
106           other = 'Non-HS';
NOTE: Format DIV_FMT has been output.
107
107       !  value st_fmt   0-<10 = 'Very Small'
108           10-<14= 'Small'
109           14-<18= 'Medium'
110           18-<22= 'Large'
111           22-high='Very Large'
112           other = 'Unknown';
NOTE: Format ST_FMT has been output.
113         run;

NOTE: PROCEDURE FORMAT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


114
115         /* Alternate and faster way to read from csv */
116         /* Not covered in assignment */
117
118         /* PROC IMPORT DATAFILE = schools */
119         /* DBMS = CSV */
120         /* OUT = work.schools_data; */
121         /* GETNAMES = YES; */
122         /* RUN; */
123
124         /*  5 Convert CSV to SAS dataset*/
125
126         data work.school_data;
127         length School   $50
128            LocCity  $50
129            MailCity $50
130            County   $50
131            Teachers 6
132            Grade7 4
133            Grade8 4
134            Grade9 4
135            Grade10 4
136            Grade11 4
137            Grade12 4
138            Ungraded 4
139            PreTotal 4
140            ElemTotal 4
141            HSTotal 4
142            STRatio 6;
143         infile schools DSD firstobs= 2;
144         input School
145              LocCity
146           MailCity
147           County
148           Teachers
149           Grade7
150           Grade8
151           Grade9
152           Grade10
153           Grade11
154           Grade12
155           Ungraded
```

```
156          PreTotal
157          ElemTotal
158          HSTotal
159          STRatio;
160        run;

NOTE: The infile SCHOOLS is:
      Filename=/folders/myfolders/hw_data/OKSchools.csv,
      Owner Name=root,Group Name=vboxsf,
      Access Permission=-rwxrwx---,
      Last Modified=27Nov2017:22:42:15,
      File Size (bytes)=134141

NOTE: 1785 records were read from the infile SCHOOLS.
      The minimum record length was 55.
      The maximum record length was 110.
NOTE: The data set WORK.SCHOOL_DATA has 1785 observations and 16 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


161
162        /* 6 Print first 30 observations */
163
164        PROC PRINT data = school_data (obs = 30) noobs;
165        title1 "Oklahoma School Analysis";
166        title2 "Partial Listing";
167        footnote "Based on NCES Data";
168        RUN;

NOTE: There were 30 observations read from the data set WORK.SCHOOL_DATA.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.18 seconds
      cpu time            0.18 seconds


169
170        /* 7 Output distribution of class sizes */
171
172        PROC FREQ data = work.school_data;
173        tables STRatio / nocum missing ;
174        format STRatio st_fmt.;
175        title2 'Distribution of Class Sizes Based on Student/Teacher Ratio';
176        label stratio = "Class Size";
177        RUN;

NOTE: There were 1785 observations read from the data set WORK.SCHOOL_DATA.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.06 seconds
      cpu time            0.06 seconds


178
179        /* 8 Average Student Teacher Ratio Grouped by Division*/
180        /* 9 Include Date and Data Portion of Summary at the top of the page */
181
182        title2;
183        ods proctitle = off;
184        options date = YES;
```

```
185
186         PROC SUMMARY data = work.school_data missing mean maxdec=1 nway;
187         var STRatio;
188         class HSTotal;
189         format HSTotal div_fmt.;
190         output out = work.means2
191         mean = Ratio;
192         run;

NOTE: There were 1785 observations read from the data set WORK.SCHOOL_DATA.
NOTE: The data set WORK.MEANS2 has 8 observations and 4 variables.
NOTE: PROCEDURE SUMMARY used (Total process time):
      real time           0.01 seconds
      cpu time            0.02 seconds


193
194         proc print data= work.means2 noobs label;
195         title3 "Average Student-Teacher Ratio by School Division";
196         var HSTotal _FREQ_ Ratio;
197         label HSTotal = 'Division'
198           _FREQ_ = 'Schools';
199         format Ratio 5.1;
200         run;

NOTE: There were 8 observations read from the data set WORK.MEANS2.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds

200      !

201
202         /* 10 Houskeeping to make sure title or footnote dont carry over */
203         ods proctitle = ON;
204         title1;
205         footnote;
206
207         ods pdf close;
NOTE: ODS PDF printed 4 pages to
/folders/myfolders/assign15/pulkit.jain_HW15_output.pdf.
208         ods listing;
209
210
211         OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
224
```