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/*****
*****/
/* Program Name:      pulkit.jain_HW15.sas
                      */
/* Program Location:  C:\Users\Pulkit
Jain\Documents\sasuniversityedition\myfolders\assign15 */
/* Date Created:      11/27/2017
                      */
/* Author:            Pulkit Jain
                      */
/* Purpose:           Assignment 15, User Defined Formats
                      */
*****/

/* 1 Use a fileref to access CSV file, include headers*/
/* Create two libname statements;                               */
/* Assign library to locaion of hw data with access only; */
/* Assign another library with read and write access;          */

filename schools '/folders/myfolders/hw_data/OKSchools.csv';

libname hw_data '/folders/myfolders/hw_data' access=readonly;
libname pulkit15 '/folders/myfolders/assign15';

/* Specify a fileref to designate output of pdf */

filename HW15 '/folders/myfolders/assign15/pulkit.jain_HW15_output.pdf';

/* 2 Create Output with landscape orientation */
/* Display date on the final section of the output */
/* SAS output should start on page number 2 */

ods pdf file = HW15 bookmarkgen=yes ;
options orientation = landscape pageno=2 date=NO;

/* 3 Create a format to display school division based on number of students on
HSTotal */
/* Division is a label to show number of students size */

/* 4 Create a second format within the same procedure for STRatio */

proc format;
    value Div_fmt    0-69 = 'B'
                    70-106 = 'A'
                    107-180 = '2A'
                    181-374 = '3A'
                    375-720 = '4A'
                    721-1250 = '5A'
                    1251-high = '6A'
                    other = 'Non-HS';
    value st_fmt      0-<10 = 'Very Small'
                    10-<14 = 'Small'
                    14-<18 = 'Medium'
                    18-<22 = 'Large'
                    22-high = 'Very Large'
                    other = 'Unknown';

run;

```

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/* Alternate and faster way to read from csv */
/* Not covered in assignment */
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```
/* PROC IMPORT DATAFILE = schools */
/*   DBMS = CSV */
/*   OUT = work.schools_data; */
/*   GETNAMES = YES; */
/* RUN; */
```

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/* 5 Convert CSV to SAS dataset*/
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```
data work.school_data;
    length School    $50
           LocCity   $50
           MailCity  $50
           County    $50
           Teachers  6
           Grade7    4
           Grade8    4
           Grade9    4
           Grade10   4
           Grade11   4
           Grade12   4
           Ungraded  4
           PreTotal  4
           ElemTotal 4
           HSTotal   4
           STRatio   6;
    infile schools DSD firstobs= 2;
    input School
           LocCity
           MailCity
           County
           Teachers
           Grade7
           Grade8
           Grade9
           Grade10
           Grade11
           Grade12
           Ungraded
           PreTotal
           ElemTotal
           HSTotal
           STRatio;

run;
```

```
/* 6 Print first 30 observations */
```

```
PROC PRINT data = school_data (obs = 30) noobs;
    title1 "Oklahoma School Analysis";
    title2 "Partial Listing";
    footnote "Based on NCES Data";
RUN;
```

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/* 7 Output distribution of class sizes */
```

```
PROC FREQ data = work.school_data;
    tables STRatio / nocum missing ;
    format STRatio st_fmt.;
```

```

        title2 'Distribution of Class Sizes Based on Student/Teacher Ratio';
        label stratio = "Class Size";
RUN;

/* 8 Average Student Teacher Ratio Grouped by Division*/
/* 9 Include Date and Data Portion of Summary at the top of the page */

title2;
ods proctitle = off;
options date = YES;

PROC SUMMARY data = work.school_data missing mean maxdec=1 nway;
    var STRatio;
    class HSTotal;
    format HSTotal div_fmt.;
    output out = work.means2
           mean = Ratio;
run;

proc print data= work.means2 noobs label;
    title3 "Average Student-Teacher Ratio by School Division";
    var HSTotal _FREQ_ Ratio;
    label HSTotal = 'Division'
           _FREQ_ = 'Schools';
    format Ratio 5.1;
run;

/* 10 Houskeeping to make sure title or footnote dont carry over */
ods proctitle = ON;
title1;
footnote;

ods pdf close;
ods listing;

```