SAS Programming
Practice #10

Write one SAS program for this assignment:

1. For this problem you will need the file BASKETBALL.XLSX (2016 version of Excel) available in the data sets list in the Online Classroom. Save this file. This file has two pages or worksheets, one for 2017 and one for 2018. Each sheet has the same variables collected: Team, ORB (offensive rebounds), DRB (defensive rebounds), AST (assists), BLK (blocked shots), and TOV (turnovers).
   a. Using the IMPORT procedure, create SAS data sets *classhw.bb17* and *classhw.bb18* for years 2017 and 2018, respectively. Recover the IMPORT procedure(s) code generated by the Import Wizard. Add additional lines of programming to complete the following tasks.

   b. Label the variables in *classhw.bb17* and *classhw.bb18.*

   c. Use the basketball data sets for 2017 and 2018 you created earlier this semester. Recall those data tables contained Team, Field Goals, Field Goals Attempted, 3-Pointers, Free Throws. (See your Assignment 2, Practice 3 programs (and later programs) for this.) Copy those DATA steps into the program for this problem. Label the variables in both of those data sets if you have not already done so.

   d. Combine these data sets as follows:
      i. Create *classhw.BBall2017* from the two 2017 SAS data setse so that the variables appear by default in the following order: Team, FG, FGA, P3, FT, ORB, DRB, AST, BLK, TOV, and POINTS, where POINTS = (FG – P3)*2 + 3*P3 + FT. Print the resulting SAS data set with the variable names and no observation numbers.
      ii. Create *classhw.BBall2018* from the two 2018 SAS data sets so that the variables appear by default in the following order: Team, FG, FGA, P3, FT, ORB, DRB, AST, BLK, TOV, and POINTS, where POINTS = (FG – P3)*2 + 3*P3 + FT. Print the resulting SAS data set using variable labels.

   e. Create *classhw.BBall2017_18* by "stacking" *classhw.BBall2017* and *classhw.BBall2018*. Prior to "stacking" you may need to add a variable "Year" to each SAS data set assigning the values 2017 and 2018 as appropriate.

2. Like the IMPORT wizard, there is an EXPORT wizard (**File – Export Data**) that can write a SAS data set to an external file in formats compatible with various software, and EXPORT can generate SAS code the accompanies this action. For this problem, consider the SAS data set in BASKETBALL.XLSX.
   i. Compute the means for each of the variables for each year in *classhw. BBall2017_18.* Use PROC MEANS and a CLASS statement. Recover the means in an output SAS data set called *work.sumstats*.
   ii. Using the EXPORT wizard, send the contents of *work.sumstats* to the Excel file BASKETBALL.XLSX. Place these values on a third sheet of the Excel file. Add

the generated EXPORT code to the end of your program for this practice assignment.

DATA Step Information – DROP, KEEP, RENAME Statements

Create *classhw.bb17_18* by combining SAS data sets *classhw.BBall2017* and *classhw.BBall2018* so that the variables in the resulting SAS data set are: Team, FG17, FGA17, P317, FT17, ORB17, DRB17, AST17, BLK17, TOV17, POINTS18, FG18, FGA18, P318, FT18, ORB18, DRB18, AST18, BLK18, TOV18, and POINTS18. You will need to rename the existing variables names in a new DATA step for each year before combining tables.
Perform this task three different ways.

i. Using only the DROP statement in the DATA steps.
ii. Using only the KEEP statement in the DATA steps.
iii. Using only the RENAME statement in the DATA steps.

Each of these statements is overviewed below. You may want to add these three commands to your DATA Step Information 2 notes.

Example 1:
```
DATA one;
<list of DATA step commands>
DROP  x y z;
```
3 variables will be dropped from data table work.one; all other variables will be kept.

Example 2:
```
DATA two;
<list of DATA step commands>
KEEP  r s t;
```
Only 3 variables will be kept in data table work.two; all other variables will be dropped.

Example 3:
```
DATA three;
<list of DATA step commands>
RENAME  oldname1 = newname1    oldname2=newname2 ;
```
Variables *oldname1* and *oldname2* will appear in work.three now as *newname1* and *newname2*.

For all practice and assignments, include TITLE statements that write the Homework # and Problem # and your name on each procedure. Always bring your Practice programs to class with you on a USB device or have access to the on your H:\ drive. You may need some of that information for the in-class assignments.