

SAS Programming Practice #3

Practice problems are designed to prepare you for upcoming assignments. Tasks requested in Practice problems may be needed on future assignments, such as, in this case, the creation of the conference variables in Problem 1c.

Write a single program to do all of the steps in problems 1 and 2.

1.
 - (a) In Assignment 2, you created two data sets containing information for all of the professional basketball teams in the NBA, one set for 2017 and one for 2018. Modify your Assignment 2 program to do the following: Create a variable called YEAR for each of the data sets using the information in DATA STEP INFORMATION 2. The value of this new variable is the 4-digit year. Then combine the data sets using the SET command. PRINT the resulting data set.
 - (b) The NBA is divided into two conferences: East and West, and there are three divisions within each conference. The lists of teams for each conference and division are:

East Conference:

Atlantic: Toronto, Brooklyn, New York Knicks, Boston, Philadelphia

Central: Indiana, Chicago, Detroit, Cleveland, Milwaukee

Southeast: Miami, Atlanta, Washington, Charlotte, Orlando

West Conference:

Northwest: Oklahoma City, Portland, Denver, Minnesota, Utah

Pacific: Los Angeles Clippers, Golden State, Phoenix, Los Angeles

Lakers, Sacramento

Southwest: San Antonio, Houston, Dallas, Memphis, New Orleans

Using the combined data set created in part a and IF-THEN statement(s), create a variable only for the conference.

Use a **single** SAS/UNIVARIATE procedure and the combined SAS data set in part b to program for parts c, d, e, and f.

- (c) compute summary statistics for free throws for each conference and 94% confidence intervals for the mean.
 - (d) determine whether the populations of 3-point field goals for each conference follow a normal distribution. Use $\alpha = 0.01$. Write a conclusion for the test(s).
 - (e) Assuming that the data are normally distributed (this may not agree with your solution to part d) does the 3-point field goal average for each of the conferences differ significantly from 400? Use $\alpha = 0.05$ in your conclusions.
 - (f) Output the median and mean values for free throws and 3-point field goals for each conference to a new data set. Print this data set using the PRINT procedure.
2. Using the SAS/MEANS procedure and the combined SAS data set created in parts a and b,
 - a. compute the mean, number of observations, standard deviation, minimum and maximum for each of the response variables by year (use a BY statement). Recover these statistics in a SAS data set called PRAC3_2A and print this SAS data set.

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.

- b. compute the same requested statistics in part a for each year and conference combination. Use a `CLASS` statement to do this. Recover these statistics in a SAS data set called `PRAC3_2B` and print this SAS data set.
- c. What is the effect of the `BY` statement on the SAS data set created in part a?
What is the effect of the `CLASS` statement on the SAS data set created in part b?