Homework assignment 13

Use black text (if possible) for everything you include in this document. Keep both your answers and the original questions. Save this document in PDF format and submit it on Canvas. Include your last name, the course number and the module number in the name of your file.

Please note that there is a slight discrepancy between how Monica Gaddis interprets p-values and how Steve Simon interprets them. For all of the interpretations below, use the cut-off values suggested by Steve (-0.7, -0.3, 0.3, and 0.7).

1. Show a documentation header. The documentation header is a description of who wrote the program, when it was written, what the purpose of the program is (briefly), and what restrictions (if any) that you may place on the program. For SPSS, you can just type the documentation as free format text. For other programs, you might use the comment feature (such as /\* and \*/ in SAS).

2. Download the fat data set, [data-13-fat.txt](https://github.com/pmean/classes/blob/master/biostats-1/data/data-13-fat.txt), and review the data dictionary, [data-13-fat-data-dictionary.yaml](https://github.com/pmean/classes/blob/master/biostats-1/data/data-13-fat-data-dictionary.yaml). Import this data into SPSS and show the first ten rows of data.

3. Calculate the correlation between the two measures of body fat, fat\_b and fat\_s, as well as a confidence interval for the population correlation. Draw a scatterplot of these two variables (it does not matter which of the two is on the x or y axis). Be sure to use good display principles for your scatterplot. Display and interpret the results.

4. Calculate the correlation between fat\_b and age, as well as a confidence interval for the population correlation. Draw a scatterplot of these two variables (place age on the x axis). Display and interpret the results.

5. Display a large correlation matrix between fat\_b and all the measures of body circumference. Remove rows for Sig. (2-tailed) and N. Round the correlations to one or two decimals. Display the correlations with the body circumference measures as the rows and fat\_b as the only column. Interpret these correlations. Is there any pattern that you notice about which parts of the body correlate strongly or weakly with fat?

6. The strongest correlation between fat and body circumferences occurs at the abdomen. Calculate partial correlation coefficient between fat\_b and the other circumference measures controlling for abdomen. Show a table of partial correlations with the circumference measures (other than abdomen) as the rows and fat\_b as the single column. Do the partial correlations differ markedly from the earlier correlations you calculated?