Post-Live Session Homework: Unit 1

Assignments

These questions will be discussed during Live Session with write-ups due afterwards. Type up or write out your work and scan it/upload it to the LMS.

1. Using the creativity study (Section 1.1.1) and a computer, randomly select 24 numbers to be in the first group and 23 to be in the second group. Compute the difference in average for the two groups. Repeat this process five times, using different sets of random numbers. Did you get any difference larger than the one actually observed (4.14)?
2. Question 25 page 25 – part (b) only.
   - Type the data into SAS
   - Obtain side by side boxplots of the data
   - Interpret the boxplots (i.e. describe the shape, center, and spread of each group, and make a comparison of the groups on the basis of the plots). After examining the data, what statistical testing procedures do you think are most appropriate?

For this homework assignment, you will also need to download the Output Data Set Case0101.

While the data set is provided here, you can also find it in the Tool Box for this course.

Note: Chrome users must right-click and select **Save Link As** to download a PDF.

BONUS (3pts) The Survey of Study Habits and Attitudes (SSHA) is a psychological test designed to measure the motivation, study habits, and attitudes toward learning of college students. These factors, along with ability, are important explaining success in school. Scores on the SSHA range from 0 to 200. A selective private college gives the SSHA to a simple random sample of both male and female first-year students.

The data for the women are as follows:

156 109 137 115 152 140 154 178 111 123 126 126 137 165 129 200 150

The data for men are as follows:

118 140 114 180 115 126 92 169 139 121 132 75 88 113 151 70 115 187 114

Most studies have found that the mean SSHA score for men is lower than the mean score in a comparable group of women. Conduct a permutation test to provide a p value that provides evidence either for or against this claim. **Use the SAS code from class and provide only the histogram and the resulting pvalue.**