

Statistics 3080
Homework 4
Due: Wednesday, February 21

Complete the following problems in a R Markdown file and submit your compiled PDF.

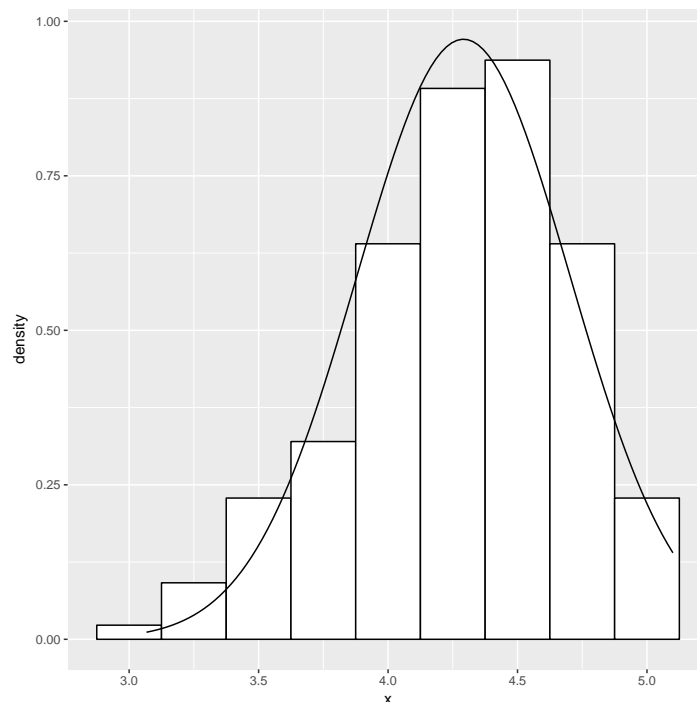
Problem 1: The data file *sleep.txt* contains the reaction times for 18 subjects after the associated number of days of sleep deprivation.

- (a) Plot these data distinguishing each subject by line type.
- (b) Plot these data distinguishing each subject by line color.
- (c) Add points to the graphic created in part (b)
- (d) Modify the point type in the graphic created in part (c) to vary by subject.

Problem 2: The data file *compeexp.txt* contains results from an experiment on plant competition. The experiment compared the plant yield at maturity for one control and four treatment groups.

- (a) Create a bar graph for the median yield of each group with bars that are white with a black outline.
- (b) Add error bars to the graphic created in part (a) that represent the interquartile range (Q1 to Q3) and reduce their width to 20% of the width of the bars.

Problem 3: The data file *erupt.txt* contains a subset of the Old Faithful geyser eruption duration data. Recreate the graphic shown below.



Hint: The density curve is centered at the sample mean and uses the sample standard deviation.