Assignment #5 contains problems about estimation. Problems which require the use of R have the symbol ⟨R⟩.

Please include **your name** and **the discussion section (day/time) that you attend** on your homework. This assignment is worth 50 points in total. If you feel challenged by these problems, I encourage you to do additional problems on your own. Many problems have answers in the back of the textbook.

Your assignment must be turned in during lecture or to your TA's mailbox by 5pm on the due date. We will not grade late homework. If there are special circumstances, please speak to Professor Larget, preferably in advance, for consideration.

1. *[5 points]* Do Exercise 6.13.
2. *[5 points]* Do Exercise 6.20.
3. *[10 points]* Do Exercise 6.29.
4. *[5 points]* Do Exercise 6.31.
5. ⟨R⟩ *[15 points]* Do Exercise 6.32. Then, construct a confidence interval using R and the function `t.test` and make a graph using `hist`. Include with your homework a printout of the R output.

```
# Load the data into R using the c function.
> data6.32 = c(38,42,25,35, ..., 59,53)

# Verify the mean and sd.
> mean(data6.32)
> sd(data6.32)

# Verify the t multiple
> qt(0.975,df=length(data6.32)-1)

# Use the t.test function to create the confidence interval.
# Ignore the output not regarding the confidence interval.
> t.test(data6.32,conf.level=0.95)

# Construct a histogram with specified breaks.
> hist(data6.32,breaks=seq(14.5,59.5,5))
```

6. *[10 points]* Do Exercise 6.40.