Stat 610 Homework 0

Due Thursday, September 8, 11:59pm

Background

This is a short assignment aimed at showing you how R stores information.

Assignment

Your assignment is as follows:

Run the following code:

```
> x <- rnorm(10)
> y <- rnorm(10)
> lm0 <- lm(y ~ x)
> lm0_summary <- summary(lm0)
```

and answer the following questions about the objects that were created.

1. Use the `typeof` function to find the types of x, y, lm0, and lm0_summary.

2. Use the `str` function to look at the elements of lm0_summary. Describe some of the elements contained in that object (there are 11 total, no need to describe all of them).

3. What is the typeof lm0_summary[4]? Of lm0_summary[[4]]? What is the difference between them?

4. Suppose you wanted a vector containing just the standard errors of the coefficient estimates in this model. Notice that the standard errors, along with some other information, is contained in the fourth element of lm0_summary. What is wrong with the following strategy for getting the standard errors?

   ```
   > estimates_and_errors <- lm0_summary[4]
   > std_errors <- estimates_and_errors[,2]
   ```

5. How would you modify the code above so that `std_errors` is a vector with the standard errors?

Submission parameters

You should submit an Rmd file and the corresponding pdf on canvas. The files should contain both the code you ran and the answers to the problems.