**Introduction to R – 25 pts**

This assignment is intended to introduce you to R, RStudio, and integration with GitHub, as well as help you practice some R coding. You may work in pairs. When submitting the assignment on Canvas, please put both names on the assignment.

1. 5 pts. Explain the following things about R and Rstudio:
   * Where do you type code?
   * Where is the output of the code?
   * Where do plots show up?
   * What is a global environment?
   * How do you get help for a function through R studio?
   * What is an R package?
   * What is a function?
   * How do you find the installed and loaded packages?
   * What is a working directory, and how do you find it?
   * What is a relative file path and how is it different than an absolute file path?
2. 2 pts. Explain the steps to start a new R project connected to a GitHub repository.
3. 3 pts. Please explain the different data classes and how they are similar and different from each other.
   * Vector
   * Dataframe
   * Matrix
4. 10 pts. Complete all tasks in an R script and push it to GitHub.

* Create a vector named 'z' with the values 1 to 200
* Print the mean and standard deviation of z on the console
* Create a logical vector named zlog that is 'TRUE' for z values greater than 30 and 'FALSE' otherwise.
* Make a dataframe with z and zlog as columns. Name the dataframe zdf
* Change the column names in your new dataframe to equal “zvec” and “zlogic”
* Make a new column in your dataframe equal to zvec squared (i.e., z2). Call the new column zsquared.
* Subset the dataframe *with and without* the subset() function to only include values of zsquared greater than 10 *and* less than 100
* Subset the zdf dataframe to only include the values on row 26
* Subset the zdf dataframe to only include the values in the column zsquared in the 180th row.
* Annotate your code, commit the changes and push it to your GitHub

1. 5 pts. Download the Tips.csv file from Canvas. Use the read.csv() function to read the data into R so that the missing values are properly coded. \*\*Note the missing values are reported in the data as a period (i.e., “.”). How do you know the data were read correctly?