

# Homework 1

**Class:** STATS 4380 - Data Science

**Term:** Spring 2022

**Prof:** Jacob Rozran

**Assigned:** January 13, 2022

**Due:** January 18, 2022

## Assignment

1. Create a new R Script in RStudio and save it as `homework_1_your_name.R` in the directory of your choice.
2. Using comments, create a header that includes your name, the class name, the homework assignment (homework 1), and the due date - all on separate lines.
3. Each of the following commands should be on its own line(s) AFTER a comment line explaining which problem this is:
  - a. Determine the square root of 100489
  - b. Manually count the number of vowels in your first name. Manually count the number of consonants in your first name. Finally, output the calculation the ratio of vowels to consonants are in your name. (For example, Jake has 2 vowels and 2 consonants and the ratio is 1).
  - c. One state legislature tried to pass a law that “simplified” the value of pi to make it easier for people to use. They wanted to make it 22/7. Use a logical statement in R to demonstrate that pi is NOT equal to 22/7. (Unless you overwrite it, the variable `pi` is already in R (to only six decimal places)).
  - d. Confirm that the square root of 150 is greater than 12 and less than 13.
  - e. Load the package `gapminder` (*hint: there may be a step before you are able to load the package.*)
  - f. Use the `head()` function on the `gapminder` data to show the first 6 rows of the dataset. State the variables that exist in the dataset.
  - g. Run the `tail` function on the `gapminder` data. When you do, add a second argument to the `tail` function to print the last 10 observations in the `gapminder` dataset.
4. Upload your final homework to blackboard.