Statistical Computing
Activity 1

Put your name at the top of this sheet. Write the R code to answer the following questions. Write the code and then show what the computer returns when that code is run.

1. e^2

2. $((4)^5)^{\frac{1}{8}}$

3. $sin(\frac{\pi}{3}) \times (1 + tan(\frac{\pi}{3}))$

4. $\sqrt{14^3 - 6^{\frac{3}{2}}}$

5. $| -\ln(2\pi \times (\sqrt{e^9})) |$

6. $\sum_{i=5}^{50} i^{i-1}$

7. $\forall_i \in [1, 50] \quad \sqrt(i)$

1. You run a regression where your main explanatory variable is a binary indicator for Party ID (0=Democrat, 1=Republican) and you dv is a continuous measure of feelings towards President Trump (0-100 scale). The regression coefficient you get back your party variable is 6.25. What does that mean?

2. If someone asked you to cross-validate your regression model, what do they want you to do?

3. You have an experiment where you asked each respondent to look at 6 news headlines and determine whether or not they are fake (a zero 1 outcome). So for each person you have six rows. Using tidyverse commands, how would you find the mean number of headlines each respondent thought were false . Write the code as best you can.

4. Write a SQL query to choose two variables names "party" and "vote" from an existing database called "congress".

5. List three ways to improve the speed of an R function. How would you go about evaluating the speed of a function?

6. What is the Markdown code to create a bullet list?