

Lab 1

Stat 427

Fall 2020

Instructions:

Complete all questions. To prepare for the randomly collected lab, you will need to do the following to prepare the work for submission. These submission rules will apply to all labs throughout the semester.

Preparing your lab work for submission:

Answer the questions from the assignment (not all items in the assignments will have answers) in a word doc, copy and paste the code (from your script) and all output as well. When I actually collect a lab, then just upload the one (1) word doc to BbLearn (you can upload either Word or PDF only).

(1) Evaluate the following (yes, :-) with R)

(a) $\frac{93^3-164}{46^3+189}$

(b) $376 - \frac{23^2}{4}$

(c) $\frac{59+48^2}{-9+22^2} - \frac{-16+55^2}{13+29^2}$

(d) $18^4 - 16^3 + 14^2 - 12$

(e) 3^x for $x = 1, 2, \dots, 20$

(f) 5^x for $x = 1, 2, \dots, 10$

(2) The following code is for a dataset that is annual measurements of the level of Lake Huron (in feet) from 1875-1972.

(a) Copy, paste and run the provided code for you (use the `lake` and `time` variables). You will be reading in a built-in dataset from R, then creating a time vector.

(b) Construct a line plot (`type='l'`) of the level of Lake Huron (in feet) from 1875-1972 (remember timeplot are all about time... as in it is the independent variable).

(c) Repeat the plot five more times (for a total of six), changing the `type` option to the following and comment on the different changes based on `type`:

(i) `type='p'`

(ii) `type='b'`

(iii) `type='c'`

(iv) `type='o'`

(v) `type='h'`

```
data("LakeHuron")
lake=LakeHuron
time=1875:1972
```