Homework 5

Name: Put your name here

I worked with:

Click the "Knit" button in RStudio to knit this file to a pdf.

Problem 1: Regular expression

a.

answer:

```r
# put your code here
```

b.

answer: write your answer here

```r
# put your code here
```

c.

answer:

```r
# put your code here
```

d.

answer: write your answer here

```r
# put your code here
```

e.

answer:

```r
# put your code here
```

Problem 2: Energy autocorrelation

a.

```r
energy <- readr::read_csv("https://raw.githubusercontent.com/deepbas/statdatasets/main/energy.csv",
                   col_type = cols(
                    .default = col_double(),
                    Timestamp = col_datetime(format = ""),
                    dayWeek = col_factor(levels=c("Mon","Tues","Wed","Thurs","Fri","Sat","Sun"))
                   ))
```

```r
x <- energy %>%
  arrange(Timestamp) %>%      # making sure sorted by time
  pull("Olin_Hall_of_Science")
acf_out <- acf(
  x,    # time series
  na.action = na.pass,      # skips over NAs
  lag.max = 4,    # max lag
  plot = FALSE)    # don't plot
acf_out
##
## Autocorrelations of series 'x', by lag
##
##      0     1     2     3     4
## 1.000 0.956 0.950 0.934 0.917
acf_out$acf    # autocorr values
## , , 1
##
##             [,1]
## [1,] 1.0000000
## [2,] 0.9556181
## [3,] 0.9502154
## [4,] 0.9344803
## [5,] 0.9169001
acf_out$lag    # lag values
## , , 1
##
##       [,1]
## [1,]    0
## [2,]    1
## [3,]    2
## [4,]    3
## [5,]    4
```

a.

answer: write your answer here

```r
# put your code here
```

b.

answer: write your answer here

```r
# put your code here
```

c.

answer: write your answer here

```r
# put your code here
```

d.

answer: write your answer here

```
# put your code here
```

Problem 3: weather

a.

answer:
```
# put your code here
```

b.

answer: write your answer here
```
# put your code here
```

c.
```
# e.g. named vector with names x and y and values 1 and 2
c(x = 1, y = 2)
## x y
## 1 2
```

answer:
```
# put your code here
```

d.

answer: write your answer here
```
# put your code here
```

e.

answer:
```
# put your code here
```

Problem 4:
```
#install.packages("titanic")
library(titanic)
set.seed(12233)
df = tibble(titanic_train)  #load dataset
```

a.

answer:

b.

answer:
```

**c.**

*answer:*

**d.**

*answer:*