Homework1

Yining Song

Problem 2

A. In this course, I expect to learn:

a)The basic concepts, principles, and techniques in R;

b)How to do programming with R;

c)How R can help us in analyzing data.

B.

$$f(x|p) = \frac{1}{\Gamma(\frac{p}{2})2^{\frac{p}{2}}} x^{\frac{p}{2}-1} e^{-\frac{x}{2}}; \qquad 0 \leq x < \infty; \quad p = 1, 2, \cdots \tag{1}$$

$$f(x|\theta, \sigma) = \frac{1}{\pi\sigma} \frac{1}{1 + (\frac{x-\theta}{\sigma})^2}, \quad -\infty < x < \infty; \quad -\infty < \theta < \infty, \quad \sigma > 0 \tag{2}$$

$$P(X = x|\lambda) = \frac{e^{-\lambda}\lambda^x}{x!}; \qquad x = 0, 1, \cdots, \quad 0 \leq \lambda < \infty \tag{3}$$

Problem 3

1.Collect data and read the data in R;

2.Define variables and tables in R to store the data;

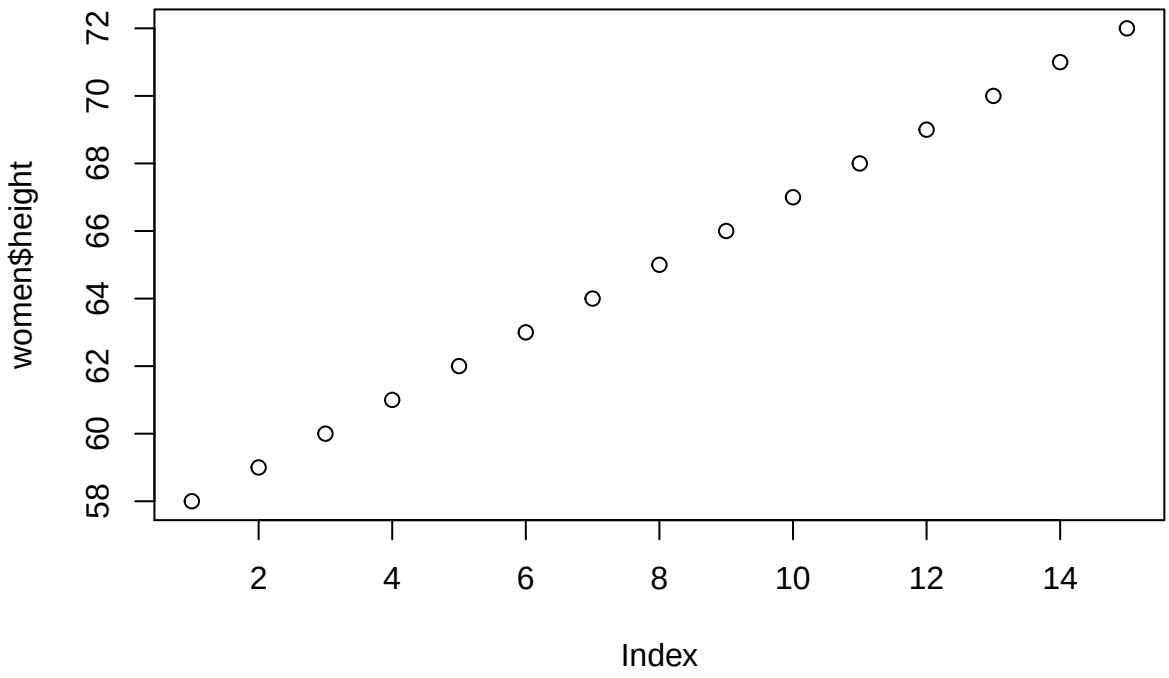
3.Use functions in R to draw descriptive coclusions about the data;

4.Plot the data(e.g.:scatter plot or histogram);

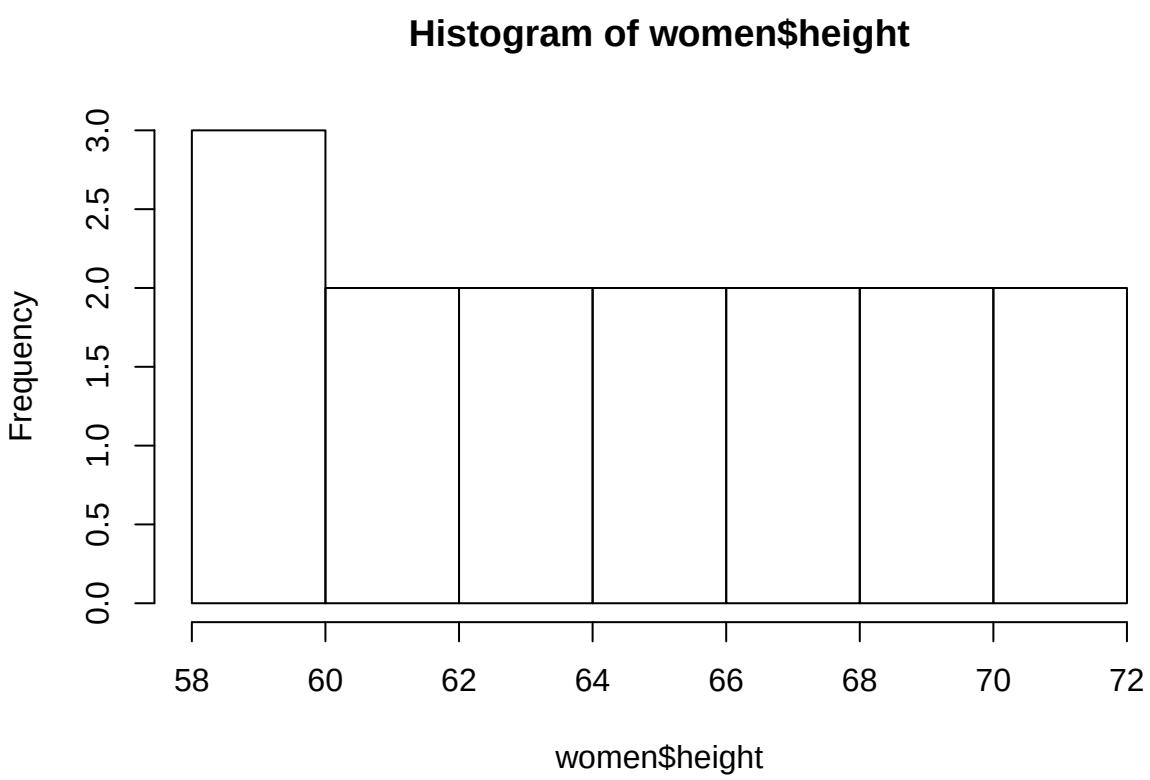
5.Upload the codes and results using Git and share with others.

Problem 4

```
plot(women$height)
```




```
hist(women$height)
```


Histogram of women$height
Frequency
0.0
0.5
1.0
1.5
2.0
2.5
3.0
58
60
62
64
66
68
70
72
women$height