Experimental Design and Data Analysis: Assignment 1

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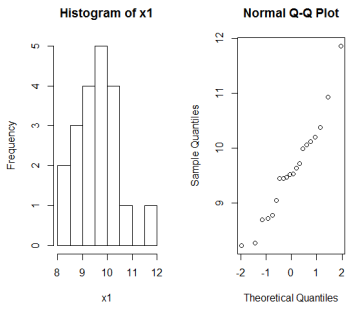
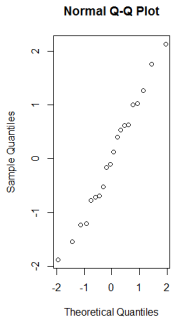
April 12, 2015

1 Exercise 1

For the datas X1 and X4 you cannot say if it is normally distributed. The random normal data of the same size also doesn't give a clear result in the QQ-plot. See this in Fig:**??** and Fig:**??**.
The datas X2 and X5 are not normally distributed. The normally distributed data of the same size gives a straight line and X2, X5 does not. See this in Fig:**??** and Fig:**??**.
The data X3 is probably normally distributed. The drawn line is straight enough to be able to conclude this, it resembles the normally distributed data of the same size. See this in Fig:**??**.
See the used code in:**??**

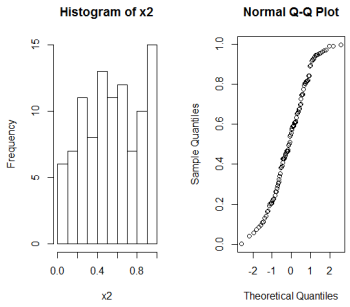


(a) X1 Data

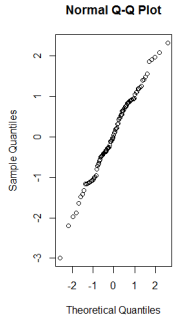


(b) Rnorm data of same size

Figure 1: X1

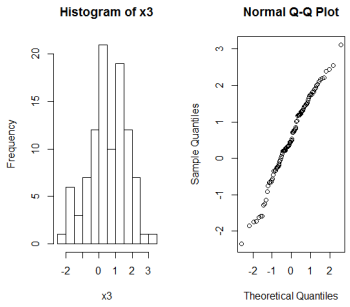


(a) X2 Data

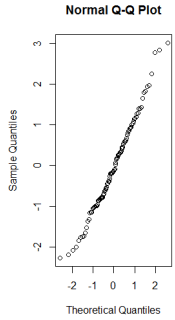


(b) Rnorm data of same size

Figure 2: X2

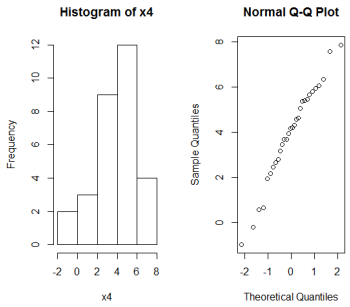


(a) X3 Data

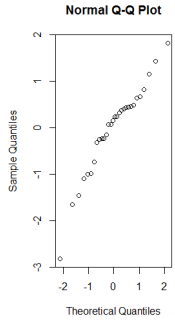


(b) Rnorm data of same size

Figure 3: X3

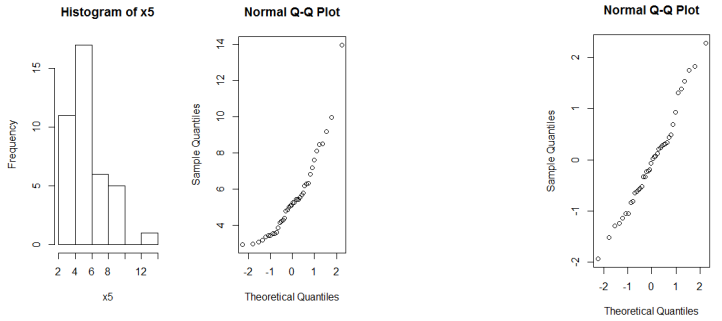


(a) X4 Data



(b) Rnorm data of same size

Figure 4: X4



(a) X5 Data (b) Rnorm data of same size

Figure 5: X5

2 Exercise 2

2.1 2.1

After running the simulation the following results were obtained:

- Number of p-values smaller than 5%: 44
- Number of p-values smaller than 10%: 93
- The histogram Fig:**??**

2.2 2.2

After running the simulation the following results were obtained:

- Number of p-values smaller than 5%: 52
- Number of p-values smaller than 10%: 106
- The histogram Fig:**??**

2.3 2.3

After running the simulation the following results were obtained:

- Number of p-values smaller than 5%: 966
- Number of p-values smaller than 10%: 984
- The histogram Fig:**??**

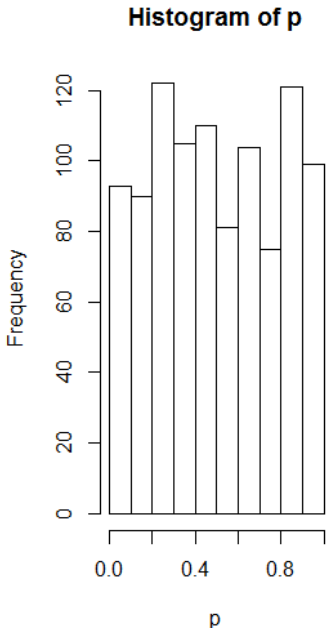


Figure 6: Histogram p-values

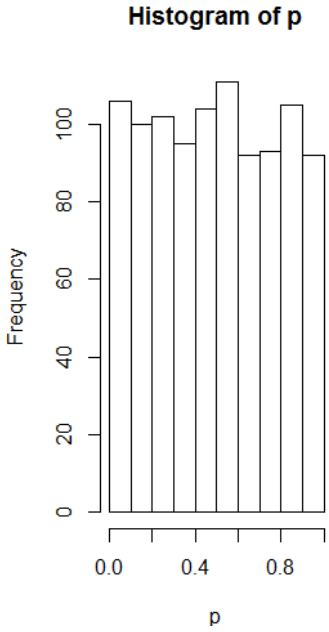


Figure 7: Histogram p-values

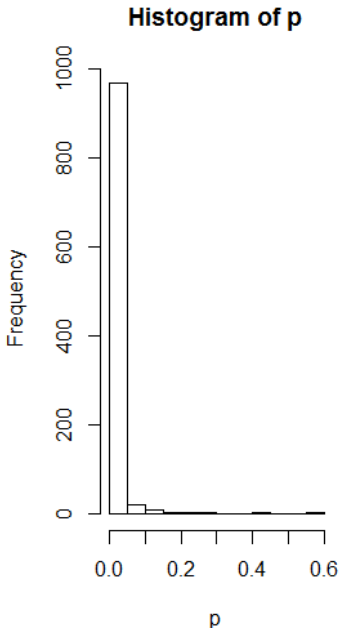


Figure 8: Histogram p-values

2.4 2.4

Discuss the results....

3 Exercise 3

4 R-Code

4.1 Exercise 1

4.2 Exercise 2

4.3 Exercise 3