HW1_qguo0701

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Part A

1.to learn how to use some popular software such as R, Python to analysis data 2.to learn how to use github to complete a project with co-workers 3.to learn how to draw some beautiful plots and pictures

Part B

Three density functions

Example1:

$$f_X(x) = P(X = x) = \begin{cases} (1-p)^{x-1}p & \text{for } x = 1, 2, \dots \\ 0 & \text{otherwise.} \end{cases}$$

Example2:

$f_X(x) = \frac{2}{9}(x+1), \quad -1 \leq x \leq 2$

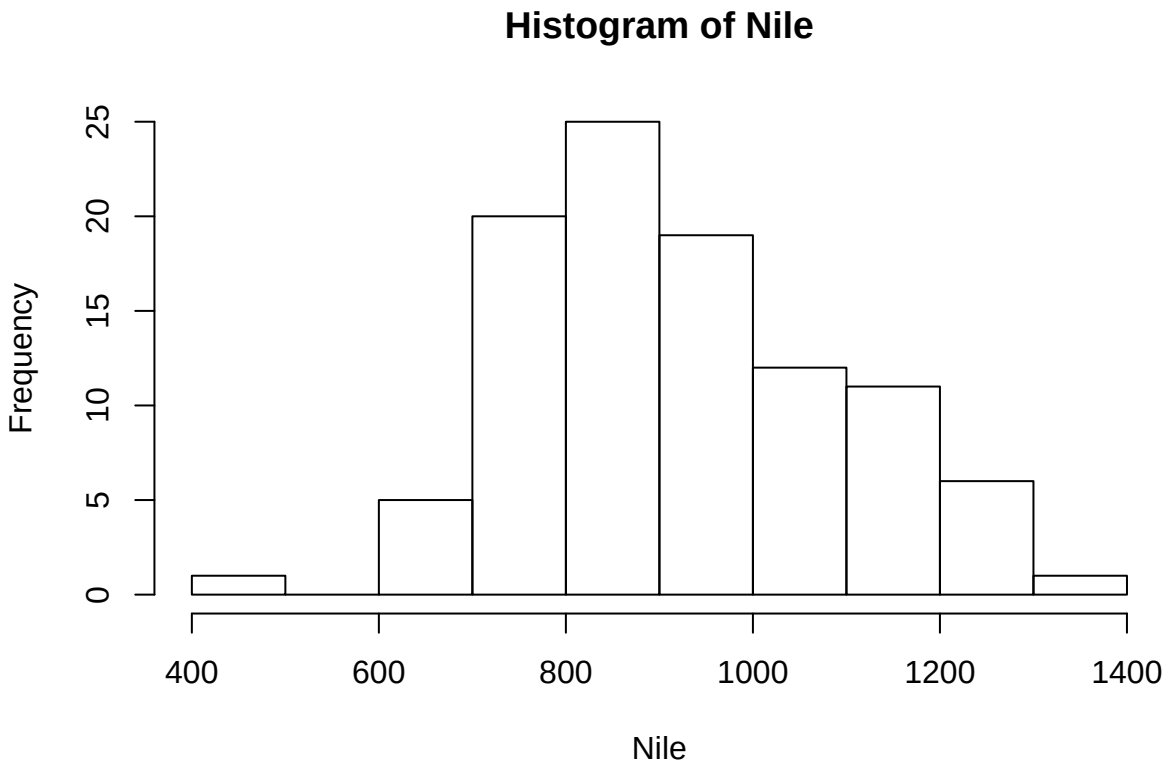
Examlpe3:

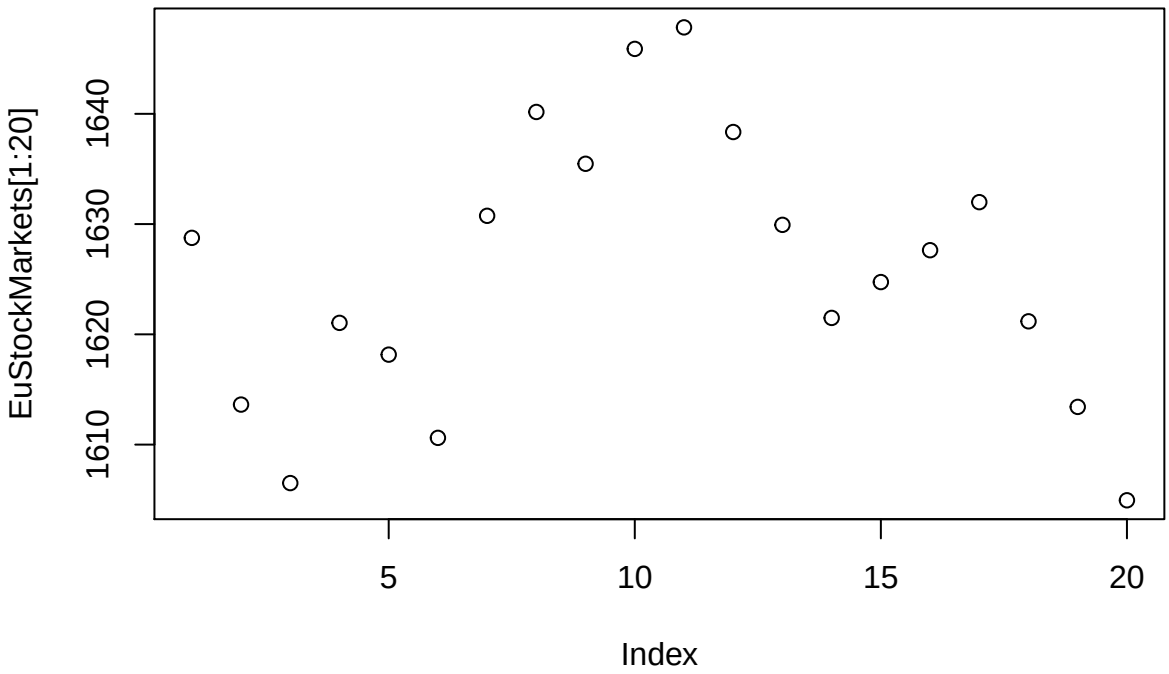
$f_X(x) = \frac{4}{\beta^3\sqrt{\pi}} x^2 e^{-x^2/\beta^2}, \quad 0 < x < \infty, \quad \beta > 0$

Problem 3

Replication is desired by many reproducible research and sicentists are now under much pressure to achieve it. As far as I am concerned, it is truely that to ensure some research trials repetition and reproducibility is increasingly important. We can apply the reproducible reseach results to enhancing data processing effeciently, which is a good habit for a time-saver in the long run.

Problem 4


Histogram of Nile
Frequency
0
5
10
15
20
25
400
600
800
1000
1200
1400
Nile


EuStockMarkets[1:20]
1610
1620
1630
1640
5
10
15
20
Index