AMERICAN UNIVERSITY STAT 614 HOMEWORK 1

INSTRUCTIONS: Please generate and submit an Rmarkdown file and one of the following files (Word, HTML, or Pdf) using the Rmarkdown and knitting process demonstrated in class.

1) Use and show R code to evaluate the following expression:

[ln(120)]3 - π

2) Use and show R code to round your answer from number 1 to the nearest hundredth.

3) Use and show R code to produce all even integers greater than 7 but less than 101.

4) Use and show R code to find the mean of all positive integers less than 100.

5) For the given data set below, Use and show R code to create a vector and assign the vector to variable,

{10, 22, 24, 34, 35, 39, 41, 43, 44, 45.5, 47, 51, 53, 54.5, 55, 56.75, 58, 58.3, 59, 59}

5a) Use and show R code to find the median for the data set.

5b) Use and show R code to produce a boxplot for the data set.

5c) Use and show R code to find the mean, median, maximum, minimum, 1st quartile and the 3rd quartile for the data set.

5d) Use and show R code to produce a histogram.

Is the data skewed left or right ?

6) Use and show R code to produce a scatter plot for the following bivariable data set. Let Credit Score be the independent values **x** and Interest Rate be the dependent values **y.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Credit Score | 545 | 595 | 640 | 675 | 705 | 750 |
| Interest Rate (Perce | 18.982 | 17.976 | 12.218 | 8.612 | 6.680 | 5.150 |

Does your scatter plot suggest a positive or a negative association between the variables ?