Computational Lab (MA318)

Assignment 2

Try to solve all the problems

---

1. The given below is the exam data of a particular exam in USA.
   name = ('Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Harry', 'Kevin', 'Jonas')
   score = (12.5, 9, 16.5, 12, 9, 20, 14.5, 13.5, 8, 19)
   attempts = (1, 3, 2, 3, 2, 3, 1, 1, 2, 1)
   qualify = ('yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes')

   i. Write a R program to create a data frame from the four given vectors.

   ii. Write a R program to get the summary and nature of data of the data frame.

   iii. Write a R program to extract specific row and column from a data frame.

   iv. Write a R program to add a new column named "country" in a given data frame.

   v. Write a R program to add new row(s) to an existing data frame.
   name = c('Robert', 'Sophia'), score = c(10.5, 9),
   attempts = c(1, 3), qualify = c('yes', 'no')

2. In R, **iris** dataset is already available under ***MASS*** library. Use the dataset to find the following :

   i. Find the number of row and column of iris dataset.

   ii. Find the summary of Sepal.Length and Sepal.Width variable

   iii. Find the types of species and its number.

   iv. Make a another dataset from iris dataset with size of Petal.Length is grater than 2.

3. In R, **mtcars** dataset is already available. Using the data draw horizontal and vertical bar plots for the number of forward gears.

4. In R, **airquality** dataset is already available under ***MASS*** library. Use the dataset to plot the following graphs or plots :

   i. Plot histogram for maximum daily temperature.

   ii. Plot the Box plot for average wind speed.

   iii. Plot the scatter plot for ozone concentration per month.

5. Create a **2D** and **3D** pie chart using the following data.
   slices = (10, 12, 4, 16, 8, 7, 13, 9, 24)
   countries = (UK, US, Australia, Germany, France, India, Finland, England, Spain)

. . . . . end . . . . . .