ECO274 Homework#01 Total Point: 10 Due: 26/09/2022, 10 am

Instructions:

(i)submission: Please email your answer-script (Only R-script/Markdown/Quarto file is acceptable) to masudalam-eco@sust.edu.

(ii) I strongly encourage you to work in a group. Each group consists of at least two and at most six students. Students must take the initiative to form their group. If a student cannot join a group, S/he may submit the work separately. The group must submit (email) a separate credits page with a brief contribution that lists the specific tasks, roles, and work contributed by each group member.

Questions:

Q1.What is RGui and R-studio (max 2 sentences)?

Q2.Open your RStudio, create a new R script file, set your working directory, save your new R-script file to your directory (give a file name to it ..something like Students_Group_Name.R); write some comments at the top of the script indicating what the script is for

(e.g., #"this is the ECO274_homework01, our group members name and student id, my group member ...."),

What command you will use to check your current working directory

How do you set your new working directory. Clearly mention what codes you will write to do so.

How many sub-windows/panes/quadrants you have on your R studio and what are their names.

Q3. Create a numeric vector 'Myvec1' with 50 elements using concatenate or seq function.

Generate a sequence from 0 to 30 by increments of 0.5.

Generate a sequence from 0 to 20 with length (the number of elements) 30

Write R code that will create the following four vectors (length is 10 for all vectors) below:

Logical vector X1 ,

Numeric vector X2 using the concatenate function, X2 will produce a vector of double precision numeric values.

Integer vector X3

Character/string vector X4

Factor vector X5

Use the str function to demonstrate that each of the vectors was created correctly.

Q4. Create a character vector 'MyFav' with five names elements (such as The Mask, Ferris Buellers Day Off, Geek Charming, Sixteen Candles, The Duff).

Check the structure of your vector MyFav

Q5. Create a numeric vector called 'Rating'(five numerical values as in the table below) whose elements contain the names of five movies you mentioned in 'MyFav', Now create the table (matrix) using MyFav, Rating and Year listed in the table below.

MyFav	Rating	Year
The Mask	6.8	1994
Ferris Buellers Day Off	7	1986
My Geek Charming	6.4	2011
Sixteen Candles	7.2	1984
The Duff	6.5	2015

Q6. Create a vector (with 15 elements) and store values as vec1. Now transform the vec1 into a matrix(name it as myMat)with 3 rows and 5 columns.

To answer this question please use nrow & ncol command. Now extract the following elements:

(i) element located on third row and second column, (ii) all element in second column (iii) all elements in second and fifth coulmn (iv) all elements located in second row

Q7. Create three vectors v1, v2 and v3 (must have the same number of elements for v1, v2 and v3). Next, transform these vectors into two matrices using both cbind() and rbind().

Q8. Use logical operations to get R to agree that “ten plus eight equals twenty” is FALSE.

Q9. Write R code that will create the 6x6 matrix (any random elements) of A and the 6x3 matrix (any random elements) of B.

Use the cbind function to create a new 6x9 matrix named C whose first six columns are equal to A and

the last three columns are equal to B.

Q10. Create a data frame named MyTopChart for the data given in the table below:

Name	Income	Age	Type	Rating
Tyga	6	32	Rapper	7
Drake	23	40	Rapper	5
Bieber	45	25	Pop	6
Taylor	36	29	Pop	4
JayZ	23	21	Rapper	2
Carrie	18	36	Country	3

The column headings should be used as column names in the data frame object. The Type column should be treated as a factor while the name column should be treated as character. Note that data.frame automatically converts any character vector to a factor by default. Explore the help file for the "as is" function I to see how to fix this. Using the str command show that you have created the data frame correctly.