QP Code: RN22BTECH297 | Reg. No | | | | | | | | | | | AR 22

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Fifth Semester - Regular) Examinations, November – 2024

22BCDPE35011 – R for DATA SCIENCE

(CSE - DS)

Time: 3 hrs | Maximum: 70 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

		CO #	Blooms Level
Q.1.	Answer ***ALL*** questions		
a.	Sketch the syntax of simple if loop in R programming	CO1	K1
b.	Explain in detail Explicit Coercion with help of an example.	CO2	K1
c.	List the methods used to load .csv and .excel files.	CO3	K2
d.	example_data = c(24, 16, 12, 10, 12, 24, 38, 12, 28, 24). What is the mode for the given data. Write code in R to calculate mode.	CO4	K2
e.	What are the limitations of R language.	CO1	K2

PART – B **(15 x 4 = 60 Marks)**

		Marks	CO #	Blooms Level
	Answer ***All*** the questions			
2. a.	Illustrate the features of R Language and its limitations.	8	CO1	K1
b.	What is a vector. Illustrate the operations of vectors	7	CO1	K2
	(OR)			
c.	Discuss on creating and operations on List and Data frame with code and examples.	8	CO2	K2
d.	Illustrate with examples on decision making statements.	7	CO1	K1
3.a.	Define a function. Demonstrate with help of an example how lazy evaluation of a function happens.	8	CO2	K2
b.	Describe the mostly used packages in R.	7	CO3	K1
	(OR)			
c.		15	CO3	K3

	IDNO	WEIGHT	COLOR	CLARITY	RATER	PRICE
1	1	0.30	D	VS2	GIA	1302
2	2	0.30	E	VS1	GIA	1510
3	3	0.30	G	VVS1	GIA	1510
4	4	0.30	G	VS1	GIA	1260
5	5	0.31	D	VS1	GIA	1641
6	6	0.31	E	VS1	GIA	1555

Given above the diamonds.txt which has the attributed mentioned.

Write the commands in R to display the following:

a) Show the first 6 observations of the data.

b) Suppose that we want to omit both IDNO and RATER variable give the code.

c) Show the data where the attributes starts with “C”.

d) Extract the rows the Diamonds data frame where WEIGHT is greater than 1 carat.
e) Extract the rows the Diamonds data frame where diamonds are rated by GIA.
f) Sort the diamonds data by the price in ascending order.
g) Sort the diamonds data by the weight in descending order.

4.a. 10 CO3 K4

Ozone	Solar.R	Wind	Temp	Month	Day
NA	145	13.2	77	9	27
14	191	14.3	75	9	28
18	131	8.0	76	9	29
20	223	11.5	68	9	30

a) Display the null values in each columns (attribute) of the above data frame
b) Display the total number of rows and columns (dimensions)
c) Display the structure of the dataset.
d) Show the statistical output of each attribute.
e) Display the top 6 rows with out using head()

b. Demonstrate the working of a for loop with help of an example. 5 CO3 K2

(OR)

c. Represent a simple bar chart input vector and name each bar, assign colors also. 8 CO3 K1

d. Create a scatter plot graph for the between weight of the car (WT) and mpg (miles per gallon) from MTCars dataset. 7 CO3 K2

5.a. Create a basic boxplot for the columns in "mpg" and "cyl" in mtcars. 8 CO4 K1

b. Sketch code for finding the probability of finding exactly 3 heads in tossing a coin repeatedly for 10 times estimated during binomial distribution. 7 CO4 K3

(OR)

c. Consider the data set "mtcars" available in the R environment. It gives a comparison between different car models in terms of mileage per gallon (mpg), cylinder displacement (disp), horse power (hp), weight of the car ("wt"). Display the code and represent the coefficients. Consider "mpg" and try to find the relationship with other features. 8 CO4 K3

d. Compile basic syntax for creating a histogram using R on data of own choice. 7 CO4 K2

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