BDTM: Big Data Tools for Managers
2nd Internal Question Paper [Set-A]

Note:

- Import MySQL database from the given link or same dataset has been sent via email along with question paper, new bdtm_test_2 database will be created on successful import.
  https://drive.google.com/file/d/1G5xZcBQC4_ZBNpfXiq5Dl9O1Fe2OYu2o/view?usp=sharing
- bdtm_test_2 database can be used for Q1, Q2 and Q3 in question paper.
- Screenshot is must for Q1, Q2, Q3 in answer sheet.
- Screenshots are optional, Q4 & Q5 can have answers as screenshots or R code.
- Download Vehicle Park data from the given link or same dataset has been sent via email along with question paper, this dataset can be used for Q5 in question paper.
  https://drive.google.com/file/d/1FxjNFxpNp0GEX6ZnUC7DAenQZHogeRf2/view?usp=sharing
- Write proper USN, NAME and Class sections in answer sheet.
- Use this google form link to submit the answer sheet at the end of exam
  Submission Link: https://forms.gle/BJdpVd1NQpSd7KpH7

Q1. Demonstrate UPDATE & DELETE statements in MySQL. [10]

Table: **EMPLOYEE**

ID	NAME	CITY	STATE	COUNTRY
1	AAA	PUNE	MAH	INDIA
2	BBB	MUMBAI		
3	CCC	TUMKUR	KAR	
4	DDD	BANGALORE		
5	EEE	GANDHINAGAR		

A. Update STATE as MAH for city MUMBAI
B. Update value IN for Country for all the records, after updating Country should contains 'IN' values for entire table.
C. DELETE the records where NAME is EEE
D. DELETE the records where STATE is MAH
E. Display all available records in EMPLOYEE table

Q2. Demonstrate JOINS in MySQL for the given Table. [10]

Table: **Orders**

OrderID	CustomerID	OrderDate
10308	2	2022-08-15
10309	1	2022-08-26
10310	2	2022-09-01

Table: **Customers**

CustomerID	CustomerName	Country
1	John Todd	Germany
2	Dominic Dom	Mexico
3	Paul S	Mexico

A. Perform Inner Join with Orders & Customer Table
B. Create a MySQL View for left join with Orders & Customer Table
C. Use a View which created in Q2[B] to display data for left join queries
D. Delete a MySQL View which created in Q2[B]

Q3. Perform SET operations on given MySQL Tables [10]

Tables: **CUSTOMERS_1**, **CUSTOMERS_2**

A. Display all the records including duplicate records from CUSTOMER_1 and CUSTOMER_2 using MySQL SET operators.
B. Display common records from CUSTOMER_1 and CUSTOMER_2 tables.

Q4. [A] Perform basic operations on R Vector [5]

1. Create R vector for given elements (99, 86, 63, 81, 48)
2. Display the vector elements
3. Display the length of R vector
4. Sort vector elements in ascending order

Q4. [B] Create and Display R Matrix for below given elements [5]

$$\begin{bmatrix} 8 & 4 & 3 \\ -5 & 6 & -2 \\ 7 & 9 & -8 \end{bmatrix}$$

1. Create Matrix with given elements
2. Display Matrix elements in R

Q5. Read Vehicle Park dataset and write R code for following statements. [10]

About Dataset:

- Vehicle Park data contains the no of vehicles are present on road or market in India from Year 2000 to 2022
- **Columns:**
  - YEAR: Vehicle Sales Year
  - VEHICLE_TYPE: Type of vehicle sold to the market (Truck, Bus, Four & Two-wheeler, Others)
  - BRAND: Vehicle brand & Manufacturer
  - VEHICLE_COUNT: No of vehicle sold in market for a year
  - AGE_GROUP: Age group of the vehicle
  - AGE: Vehicle age represent how old vehicle
  - RTO_REGISTRATION_YEAR: Year of vehicle registration

Write R Code for following statements:

A. Read (VEHICLE_PARK.csv) CSV file
B. Display top 20 and bottom 55 records using head and tail command
C. Display quick summary of all the columns.
D. Display all the vehicles which have been registered on Year 2010
E. Display AGE_GROUP single columns from Vehicle Park data.