Lab Task

Solve the below questions and attached solution with output. You must attached solution with screenshots.

Note: Your Database name must be following format

Ram5_que1

First name with class roll number_que Question number

In above example:

First_name=Ram

Class roll number=5

Question number=1

Sample:

1. Consider the following relational database

Employee(Empno,Name,Address,salary)
The primary key are underlined

Employee

Empno	Name	Address	Salary
1	Ram	Kathmandu	50000
2	Sita	Lalitpur	60000
3	Gopal	Pokhara	55000
4	Sunita	Kathmandu	52000
5	Hari	Lalitpur	48000

Now write SQL command for the following:

i) Insert data as per given table
ii) Modify the database so that Ram now lives in Pokhara
iii) Find average salary of employee for each address
iv) Find the information of employee whose salary is greater than average salary of all employees

```
MariaDB [(none)]> create database ram5_que1;
Query OK, 1 row affected (0.001 sec)
```

```
MariaDB [ram5_que1]> CREATE TABLE Employee (Empno INT PRIMARY KEY, Name VARCHAR(50), Address VARCHAR(100), Salary DECIMAL(10, 2));
Query OK, 0 rows affected (0.008 sec)
```

i)

```
MariaDB [ram5_que1]> INSERT INTO Employee VALUES (1, 'Ram', 'Kathmandu', 50000);
Query OK, 1 row affected (0.055 sec)

MariaDB [ram5_que1]> INSERT INTO Employee VALUES (2, 'Sita', 'Lalitpur', 60000);
Query OK, 1 row affected (0.004 sec)

MariaDB [ram5_que1]> INSERT INTO Employee VALUES (3, 'Gopal', 'Pokhara', 55000);
Query OK, 1 row affected (0.001 sec)

MariaDB [ram5_que1]> INSERT INTO Employee VALUES (4, 'Sunita', 'Kathmandu', 52000);
Query OK, 1 row affected (0.002 sec)

MariaDB [ram5_que1]> INSERT INTO Employee VALUES (5, 'Hari', 'Lalitpur', 48000);
Query OK, 1 row affected (0.003 sec)
```

ii)

```
MariaDB [ram5_que1]> UPDATE Employee SET Address = 'Pokhara' WHERE Name = 'Ram';
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

iii)

```
MariaDB [ram5_que1]> SELECT Address, AVG(Salary) AS AverageSalary
    -> FROM Employee
    -> GROUP BY Address;
+-----------+---------------+
| Address   | AverageSalary |
+-----------+---------------+
| Kathmandu |  52000.000000 |
| Lalitpur  |  54000.000000 |
| Pokhara   |  52500.000000 |
+-----------+---------------+
3 rows in set (0.001 sec)
```

iv)

```
MariaDB [ram5_que1]> SELECT * FROM Employee WHERE Salary > (SELECT AVG(Salary) FROM E
+-------+-------+----------+----------+
| Empno | Name  | Address  | Salary   |
+-------+-------+----------+----------+
|     2 | Sita  | Lalitpur | 60000.00 |
|     3 | Gopal | Pokhara  | 55000.00 |
+-------+-------+----------+----------+
2 rows in set (0.001 sec)
```

1. Write SQL statements for the following queries in reference to relation Emp_time provided.

Eid#	Name	Start_time	End_time
E101	Magale	10:30	18:30
E102	Malati	8:30	14:30
E103	Fulmaya	9:00	17:00

i. create the table Eid# as primary key and insert the values provided
ii. Select all employees and their total working hours
iii. Find the Employee information as per their least working hours.
iv. Select the employee name who works long hours among all the employees
v. Display the name of the employee whose name start from letter 'M' and who work more than seven hours

2. Consider the table tbl_emp as follow

EmpId*	EmpName	Salary(Nrs.)	Date_of_join	Phone	Department
E001	Ram	20000	2060-02-01	#1234	Packing
E002	Hari	18000	2065-04-01	#5647	Cleaning
E004	Sita	15000	2068-04-01	#2564	Polishing

Write the SQL statements for the following

i) Insert a record as per given table
ii) Change the Department of Hari to marketing
iii) Increase the salary of all employee by 5000
iv) Select the row having salary greater than 16000
v) Add a new column Address to the above table
vi) Delete the record of sita

3. Write the SQL statements for the following Queries by reference to Liquors_info relation:

Serial_No	Liquors	Start_year	Bottles	Ready_Year
1	Gorkha	1997	10	1998
2	Divine Wine	1998	5	2000
3	Old Durbar	1997	12	2001
4	Khukhuri Rum	1991	10	1992
5	Xing	1994	5	1995

i) creates the Liquors_info relation and insert the above records
ii)insert the records in Liquor_info as above
iii)List all the records which were ready by 2000
iv)Remove all records from database that required more than 2 years to get ready
v)Create any views for above relation

4. **Consider the following schemas**

Doctor(Name,age,address)
Works(Name,Depart_no,salary)
Department(Depart_no,dept_name,floor,room)

Write down the SQL statement for the following

1. Create the table for above schemas in such a way that referential integrity constraints must maintained .(underline attributes represent primary key)
2. Insert at least 3 rows for each table
3. Draw schema diagram for above schemas

5. Let us consider the following relation

Sailors (sid,sname,rating,age)
Boats(bid, bname,color)
Reserves(sid,bid,day)

Sailors

sid	sname	rating	age
1	John	8	25
2	Alice	7	28
3	Bob	6	22

Boats

bid	bname	color
101	Speedy	Red
102	Swift	yellow
103	Sailor	Blue

Reserves

sid	bid	day
1	101	5
2	102	6
3	103	4

Write a SQL statements for the following

i) Insert the above records
ii) Find the records of sailors who have reserved boat number 103(bid=103)
iii) Update the color of the boat ,where bid is 102,into green
iv) find the name of sailors who have reserved a red or green boat
v) find the name of sailors who have reserved boat number 103 on day 4
vi) find the name of sailors whose name is not 'Bob'
vii) find the name of all boats

6. Write SQL statements for the following queries using the given Employees relation

E_id	Fname	Lname	Department	Salary	Hire_Date
01	Ramu	Bashyal	Sales	20000	2023-08-08
02	Damu	Pandey	IT	50000	2022-01-01
03	Biru	B.k.	Sales	40000	2021-02-10
04	Hiru	Dhamala	HR	35000	2023-12-18
05	Biren	Khadka	IT	60000	2012-10-22

Create a database named Company and Employees relation.

i. Insert the above rows
ii. Create a view that shows the E_id ,Department and Hire_Date of all employees
iii. Modify the table such that the Department of Biren is HR now.
iv. Delete the record of employees whose Lname is “Pandey”
v. Find the name of employee whose first name ends with a
vi. Find the employee with highest salary
vii. Create any views from the above relation
viii. Find the total salary paid by all employees
ix. Find the average salary paid by all employees
x. Count the number of rows based on department
xi. Find average salary paid by each department
xii. Display the records in alphabetically as per name
xiii. Change the salary of Ramu to 45000
xiv. Change datatype of department to char(20)
xv. Delete records of employees whose name contains a in last position
xvi. Delete records of students whose salary is less than 30000

7. Consider the following table

order_id	product_name	price	quantity	order_date	delivery_date
1	T-shirt	25.99	2	2023-07-15	2023-07-25
2	Jeans	49.95	1	2023-07-17	2023-07-20
3	Shoes	69.50	1	2023-07-20	2023-07-30
4	Sunglasses	12.75	3	2023-07-22	2023-07-28
5	Backpack	34.99	2	2023-07-25	2023-07-29

i. Create table orders by considering order_id as primary key insert the above records (Note that insert at least one records with today date)
ii. Retrieve all orders placed on a 2023-07-15
iii. Find the number of days that required to delivered shoes
iv. Find all the orders that is received from '2023-07-17' to '2023-07-22'
v. find all the orders that is received today
vi. Calculate the average number of days it takes to deliver a orders
vii. Find the product with highest quantity

8. Create relational database for the Department of computer Engineering (DOCE) of pokhara university. Your database should have at least three relations and referential integrity constraint must me maintained and draw schema diagram also.