MYSQL:-

Consider the Company database with following tables:

1. **Employee**

   Emp_No (PRIMARY KEY)
   Emp_Name
   Address
   Sex
   Dept
   Salary
   DOJ
   Branch

2. **Department**

   Dept_No (Primary Key)
   DName
   Mgr_Id
   Mgr_Strtdate

Perform the following:
1. Create Company database
2. Viewing all databases
3. Viewing all Tables in a Database,
4. Creating Tables (With and Without Constraints)
5. Inserting/Updating/Deleting Records in a Table
6. Saving (Commit) and Undoing (rollback)

I. Consider the Department table

1. Rename the table Department as Dept
2. Add a new column Phone with not null constraints to the existing table Dept
3. Rename the column DName to Dept_Name in Dept table
4. Change the data type of column DName as CHAR with size 10
5. Delete table

II. Consider the Employee table

1. Display all the fields of the Employee table
2. Retrieve employee number and their salary
3. Retrieve average salary of all employee

4. Retrieve number of employee
5. Retrieve distinct number of employee
6. Retrieve total salary of employee group by employee name and count similar names
7. Retrieve total salary of employee which is greater than >12000
8. Display name of employee in descending order
9. Display details of employee whose name is ‘Martin’ and salary greater than 20000;

ANSWER

1.Create Company database

```
mysql> create database company;
Query OK, 1 row affected (0.01 sec)
```

2.Viewing all databases

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| company            |
| information_schema |
| mysql              |
| performance_schema |
| sakila             |
| sys                |
| world              |
+--------------------+
7 rows in set (0.00 sec)
mysql> use company;
Database changed
```

3.Creating Tables

```
mysql> create table Department
    -> (Dept_No int NOT NULL,
    -> Dname varchar(20) NOT NULL,
    -> Mgr_id int not null,
    -> Mgr_strtdate date not null,
    -> primary key(Dept_No));
Query OK, 0 rows affected (0.09 sec)
mysql> describe department;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| Dept_No      | int         | NO   | PRI | NULL    |       |
| Dname        | varchar(20) | NO   |     | NULL    |       |
| Mgr_id       | int         | NO   |     | NULL    |       |
| Mgr_strtdate | date        | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
4 rows in set (0.04 sec)
mysql> insert into Department
```

```
    -> values
    -> (1,'smith',1001,'2005-06-08'),
    -> (2,'jhon',1002,'2006-06-10'),
    -> (3,'maria',1003,'2009-04-10'),
    -> (4,'Ann',1004,'2009-04-11');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
mysql> select * from Department;
+---------+-------+--------+--------------+
| Dept_No | Dname | Mgr_id | Mgr_strtdate |
+---------+-------+--------+--------------+
|       1 | smith |   1001 | 2005-06-08   |
|       2 | jhon  |   1002 | 2006-06-10   |
|       3 | maria |   1003 | 2009-04-10   |
|       4 | Ann   |   1004 | 2009-04-11   |
+---------+-------+--------+--------------+
4 rows in set (0.00 sec)
mysql> select * from Department;
+---------+-------+--------+--------------+
| Dept_No | Dname | Mgr_id | Mgr_strtdate |
+---------+-------+--------+--------------+
|       1 | smith |   1001 | 2005-06-08   |
|       2 | jhon  |   1002 | 2006-06-10   |
|       3 | maria |   1003 | 2009-04-10   |
|       4 | Ann   |   1004 | 2009-04-11   |
+---------+-------+--------+--------------+
4 rows in set (0.00 sec)
```

1.Rename the table Department as Dept

```
mysql> alter table Department
    -> rename to Dept;
Query OK, 0 rows affected (0.07 sec)
mysql> select * from Dept;
+---------+-------+--------+--------------+
| Dept_No | Dname | Mgr_id | Mgr_strtdate |
+---------+-------+--------+--------------+
|       1 | smith |   1001 | 2005-06-08   |
|       2 | jhon  |   1002 | 2006-06-10   |
|       3 | maria |   1003 | 2009-04-10   |
|       4 | Ann   |   1004 | 2009-04-11   |
+---------+-------+--------+--------------+
4 rows in set (0.02 sec)
```

2.Add a new column Phone with not null constraints to the existing table Dept

```
mysql> alter table Dept
    -> add phone int not null;
Query OK, 0 rows affected (0.07 sec)
Records: 0  Duplicates: 0  Warnings: 0
mysql> select * from Dept;
+---------+-------+--------+--------------+-------+
| Dept_No | Dname | Mgr_id | Mgr_strtdate | phone |
```

```
+---------+-------+--------+--------------+-------+
|       1 | smith |   1001 | 2005-06-08   |     0 |
|       2 | jhon  |   1002 | 2006-06-10   |     0 |
|       3 | maria |   1003 | 2009-04-10   |     0 |
|       4 | Ann   |   1004 | 2009-04-11   |     0 |
+---------+-------+--------+--------------+-------+
4 rows in set (0.00 sec)
```

3.Rename the column DName to Dept_Name in Dept table

```
mysql> alter table Dept
    -> rename column Dname to Dept_Name;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0
mysql> select * from Dept;
+---------+-----------+--------+--------------+-------+
| Dept_No | Dept_Name | Mgr_id | Mgr_strtdate | phone |
+---------+-----------+--------+--------------+-------+
|       1 | smith     |   1001 | 2005-06-08   |     0 |
|       2 | jhon      |   1002 | 2006-06-10   |     0 |
|       3 | maria     |   1003 | 2009-04-10   |     0 |
|       4 | Ann       |   1004 | 2009-04-11   |     0 |
+---------+-----------+--------+--------------+-------+
4 rows in set (0.00 sec)
```

4.Change the data type of column DName as CHAR with size10

```
mysql> alter table Dept
    -> modify Dept_Name char(10);
Query OK, 4 rows affected (0.12 sec)
Records: 4  Duplicates: 0  Warnings: 0
mysql> describe Dept;
+--------------+----------+------+-----+---------+-------+
| Field        | Type     | Null | Key | Default | Extra |
+--------------+----------+------+-----+---------+-------+
| Dept_No      | int      | NO   | PRI | NULL    |       |
| Dept_Name    | char(10) | YES  |     | NULL    |       |
| Mgr_id       | int      | NO   |     | NULL    |       |
| Mgr_strtdate | date     | NO   |     | NULL    |       |
| phone        | int      | NO   |     | NULL    |       |
+--------------+----------+------+-----+---------+-------+
5 rows in set (0.01 sec)
```

5.Delete table

```
mysql> drop table dept;
```

```
Mysql>
Show
databases;
             +--------------------+
             | Database           |
             +--------------------+
             | company            |
             | information_schema |
             | mysql              |
             | performance_schema |
             | sakila             |
             | sys                |
             | world              |
             +--------------------+
             7 rows in set (0.01 sec)
             mysql> use company;
             Database changed
             mysql> create table Employee
                 -> (Emp_no int not null,
                 -> Emp_name varchar(20) not null,
                 -> Adress varchar(20) not null,
                 -> Sex varchar(20) not null,
                 -> Dept varchar(20) not null,
                 -> Salary int,
                 -> Doj date not null,
                 -> Branch varchar(20),
                 -> primary key(Emp_no));
            Query OK, 0 rows affected (0.04 sec)
            mysql> describe employee;
            +----------+-------------+------+-----+---------+-------+
            | Field    | Type        | Null | Key | Default | Extra |
            +----------+-------------+------+-----+---------+-------+
            | Emp_no   | int         | NO   | PRI | NULL    |       |
            | Emp_name | varchar(20) | NO   |     | NULL    |       |
            | Adress   | varchar(20) | NO   |     | NULL    |       |
            | Sex      | varchar(20) | NO   |     | NULL    |       |
            | Dept     | varchar(20) | NO   |     | NULL    |       |
            | Salary   | int         | YES  |     | NULL    |       |
            | Doj      | date        | NO   |     | NULL    |       |
            | Branch   | varchar(20) | YES  |     | NULL    |       |
            +----------+-------------+------+-----+---------+-------+
            8 rows in set (0.01 sec
            mysql> insert into Employee
                -> values
                -> (1,'Anu','koyilandy','female','finance',15000,'1998-05-06','cs'),
                -> (2,'Aru','koyilandy','female','finance',15000,'1995-05-10','cs'),
                -> (3,'jan','calicut','male','purchase',12000,'1993-04-12','marketing'),
                -> (4,'smith','trivandrum','male','sales',10000,'1997-03-11','hardware');
            Query OK, 4 rows affected (0.01 sec)
            Records: 4  Duplicates: 0  Warnings: 0
            mysql> select *from employee;
```

```
+--------+----------+------------+--------+----------+--------+------------+-----------+
| Emp_no | Emp_name | Adress     | Sex    | Dept     | Salary | Doj        | Branch    |
+--------+----------+------------+--------+----------+--------+------------+-----------+
|      1 | Anu      | koyilandy  | female | finance  |  15000 | 1998-05-06 | cs        |
|      2 | Aru      | koyilandy  | female | finance  |  15000 | 1995-05-10 | cs        |
|      3 | jan      | calicut    | male   | purchase |  12000 | 1993-04-12 | marketing |
|      4 | smith    | trivandrum | male   | sales    |  10000 | 1997-03-11 | hardware  |
+--------+----------+------------+--------+----------+--------+------------+-----------+
4 rows in set (0.00 sec)
mysql> update employee
    -> set adress ='keezhariyur'
    -> where Emp_no=2;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
mysql> select *from employee;
+--------+----------+-------------+--------+----------+--------+------------+-----------+
| Emp_no | Emp_name | Adress      | Sex    | Dept     | Salary | Doj        | Branch    |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
|      1 | Anu      | koyilandy   | female | finance  |  15000 | 1998-05-06 | cs        |
|      2 | Aru      | keezhariyur | female | finance  |  15000 | 1995-05-10 | cs        |
|      3 | jan      | calicut     | male   | purchase |  12000 | 1993-04-12 | marketing |
|      4 | smith    | trivandrum  | male   | sales    |  10000 | 1997-03-11 | hardware  |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
4 rows in set (0.00 sec)
mysql> delete from employee
    -> where Emp_no=4;
Query OK, 1 row affected (0.01 sec)
```

1.Display all the fields o the Employee table

```
mysql> select *from employee;
+--------+----------+-------------+--------+----------+--------+------------+-----------+
| Emp_no | Emp_name | Adress      | Sex    | Dept     | Salary | Doj        | Branch    |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
|      1 | Anu      | koyilandy   | female | finance  |  15000 | 1998-05-06 | cs        |
|      2 | Aru      | keezhariyur | female | finance  |  15000 | 1995-05-10 | cs        |
|      3 | jan      | calicut     | male   | purchase |  12000 | 1993-04-12 | marketing |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
3 rows in set (0.00 sec)
```

2.Retrieve employee number and their salary

```
mysql> select Emp_no,salary from Employee;
+--------+--------+
| Emp_no | salary |
+--------+--------+
|      1 |  15000 |
|      2 |  15000 |
|      3 |  12000 |
+--------+--------+
3 rows in set (0.00 sec)
```

3.Retrieve average salary of all employee

```
mysql> select avg(salary) as 'average salary'
    -> from Employee;
```

```
+----------------+
| average salary |
+----------------+
|     14000.0000 |
+----------------+
1 row in set (0.01 sec)
mysql> select count(*) from Employee;
+----------+
| count(*) |
+----------+
|        3 |
+----------+
1 row in set (0.00 sec)
```

5.Retrieve distinct number of employee

```
mysql> select distinct count(*) from Employee;
+----------+
| count(*) |
+----------+
|        3 |
+----------+
1 row in set (0.00 sec)
```

6.Retrieve total salary of employee group by employee name and count similar name

```
mysql> select sum(salary) as 'total salary' from Employee
    -> group by Emp_name
    -> having count(Emp_name)>1;
Empty set (0.00 sec)
```

7.Retrieve total salary o employee which is greater than >12000

```
mysql> select sum(salary) from Employee
    -> where salary>12000;
+-------------+
| sum(salary) |
+-------------+
|       30000 |
+-------------+
1 row in set (0.00 sec)
```

8.Display name of employee in descending order

```
mysql> select Emp_name from Employee
    -> order by Emp_name desc;
+----------+
| Emp_name |
+----------+
| jan      |
| Aru      |
| Anu      |
+----------+
3 rows in set (0.00 sec)
mysql> update employee
    -> set Emp_name='martin'
```

```
    -> where Emp_no=3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
mysql> update employee
    -> set  salary=25000
    -> where Emp_no=3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
mysql> select *from Employee;
+--------+----------+-------------+--------+----------+--------+------------+-----------+
| Emp_no | Emp_name | Adress      | Sex    | Dept     | Salary | Doj        | Branch    |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
|      1 | Anu      | koyilandy   | female | finance  |  15000 | 1998-05-06 | cs        |
|      2 | Aru      | keezhariyur | female | finance  |  15000 | 1995-05-10 | cs        |
|      3 | martin   | calicut     | male   | purchase |  25000 | 1993-04-12 | marketing |
+--------+----------+-------------+--------+----------+--------+------------+-----------+
3 rows in set (0.00 sec)
```

9.Display details of employee whose name is ‘Martin’ and salary greater than 20000

```
mysql> select *from Employee
    -> where Emp_name='martin' and salary>20000;
+--------+----------+---------+------+----------+--------+------------+-----------+
| Emp_no | Emp_name | Adress  | Sex  | Dept     | Salary | Doj        | Branch    |
+--------+----------+---------+------+----------+--------+------------+-----------+
|      3 | martin   | calicut | male | purchase |  25000 | 1993-04-12 | marketing |
+--------+----------+---------+------+----------+--------+------------+-----------+
1 row in set (0.00 sec)
```