Introduction to Database Systems (CSD317)

Practice Lab#1

Date: 31/08/2022

In this assignment, you will do some basic problems in MySQL. While defining the tables, please take care of table definition like attribute type, size, constraint etc.

Note: - ***** *Run all commands on command line client 5.6 or 5.7 (Black Screen) in MYSQL (please do not use any other tool).*
** *Use ; (semicolon) to execute every query.*
*** if your machine is showing below mentioned error and asking to set the new password, then Run the command mentioned below:
        SET PASSWORD = PASSWORD('mysql@123');

1. In the first problem you will Create a database – for e.g. **DBMS**

```
mysql> create database dbms;
Query OK, 1 row affected (0.14 sec)
```

2. Display the list of databases (List of databases already exists- in below screenshot, these databases are from my machine, you may have different/less databases).

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

This output may differ in your machine

3. Select Database DBMS

```
mysql> use dbms;
Database changed
```

4. Create a table **Emp** under DBMS database

The Structure for the Table "Emp" is given below.

Attribute(Field/Column) Name	Column Definition
Emp_ID	int(8)-primary key
Emp_Name	Varchar(30)-not null
Designation	Varchar(30)

```
mysql> create table emp(Emp_ID int(8) primary key, Emp_name varchar(30) not null, Designation varchar(30));
Query OK, 0 rows affected (0.70 sec)
```

5. Display the schema of the table Emp.

```
mysql> desc emp;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Emp_ID      | int(8)      | NO   | PRI | NULL    |       |
| Emp_name    | varchar(30) | NO   |     | NULL    |       |
| Designation | varchar(30) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.03 sec)
```

6. Insert data into table Emp as per the record of as given below

Table 1- Emp

Emp_ID	Emp_Name	Designation
1001	Reyan Fert	Manager
1002	Luther Warn	Manager
1003	Audrey Joe	Executive
1004	Kim John	Clerk
1005	John Methew	Driver

```
mysql> insert into emp values(1001,"Reyan Fert", "Manager"), (1002, "Luther Warn", "Manager")
    -> , (1003, "Audrey Joe","Executive"), (1004, "Kim John", "Clerk"),
    -> (1005, "John Methew","Driver");
Query OK, 5 rows affected (0.14 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

7. Display the table Emp

```
mysql> select * from emp;
+---------+--------------+--------------+
| Emp_ID  | Emp_name     | Designation  |
+---------+--------------+--------------+
|    1001 | Reyan Fert   | Manager      |
|    1002 | Luther Warn  | Manager      |
|    1003 | Audrey Joe   | Executive    |
|    1004 | Kim John     | Clerk        |
|    1005 | John Methew  | Driver       |
+---------+--------------+--------------+
5 rows in set (0.00 sec)
```

8. Display the table in descending order w.r.t Emp_ID

```
mysql> Select * from emp order by Emp_ID desc;
+---------+--------------+--------------+
| Emp_ID  | Emp_name     | Designation  |
+---------+--------------+--------------+
|    1005 | John Methew  | Driver       |
|    1004 | Kim John     | Clerk        |
|    1003 | Audrey Joe   | Executive    |
|    1002 | Luther Warn  | Manager      |
|    1001 | Reyan Fert   | Manager      |
+---------+--------------+--------------+
5 rows in set (0.02 sec)
```

9. Delete record for "1005" & display the table:

```
mysql> Delete from emp where emp_ID=1005;
Query OK, 1 row affected (0.15 sec)

mysql> select * from emp;
+---------+--------------+--------------+
| Emp_ID  | Emp_name     | Designation  |
+---------+--------------+--------------+
|    1001 | Reyan Fert   | Manager      |
|    1002 | Luther Warn  | Manager      |
|    1003 | Audrey Joe   | Executive    |
|    1004 | Kim John     | Clerk        |
+---------+--------------+--------------+
4 rows in set (0.00 sec)
```

10. Display the list of managers

```
mysql> select * from emp where Designation="Manager";
+---------+--------------+--------------+
| Emp_ID  | Emp_name     | Designation  |
+---------+--------------+--------------+
|    1001 | Reyan Fert   | Manager      |
|    1002 | Luther Warn  | Manager      |
+---------+--------------+--------------+
2 rows in set (0.00 sec)
```

11. How many employees are working as a manager?

```
mysql> select count(*) from emp where Designation="Manager";
+----------+
| count(*) |
+----------+
|        2 |
+----------+
1 row in set (0.00 sec)
```

12. Delete managers record

```
mysql> delete from emp where designation="Manager";
Query OK, 2 rows affected (0.15 sec)

mysql> select * from emp;
+--------+------------+-------------+
| Emp_ID | Emp_name   | Designation |
+--------+------------+-------------+
|   1003 | Audrey Joe | Executive   |
|   1004 | Kim John   | Clerk       |
+--------+------------+-------------+
2 rows in set (0.00 sec)
```

13. Display all names in upper case

```
mysql> select upper(EMP_NAME) from emp;
+-----------------+
| upper(EMP_NAME) |
+-----------------+
| AUDREY JOE      |
| KIM JOHN        |
+-----------------+
2 rows in set (0.03 sec)
```

14. Display all names in lower case

```
mysql> select lower(EMP_NAME) from emp;
+-----------------+
| lower(EMP_NAME) |
+-----------------+
| audrey joe      |
| kim john        |
+-----------------+
2 rows in set (0.01 sec)
```

15. Truncate table

```
mysql> truncate table emp;
Query OK, 0 rows affected (0.50 sec)

mysql> select * from emp;
Empty set (0.00 sec)
```

16. Drop the table:

```
mysql> drop table emp;
Query OK, 0 rows affected (0.17 sec)

mysql>
```

17. Drop database DBMS:

```
mysql> drop database dbms;
Query OK, 0 rows affected (0.18 sec)

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

18. Display the list of existing databases in the tool:

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| db1                |
| db18               |
| dbms2019           |
| dcl                |
| kudvenkat          |
| mydb               |
| mysql              |
| performance_schema |
| python1            |
| pythondb           |
| sakila             |
| sys                |
+--------------------+
13 rows in set (0.00 sec)
```

19. How many tables exist in the sakila database

```
mysql> select count(*) from information_schema.tables where table_schema='sakila';
+----------+
| count(*) |
+----------+
|       23 |
+----------+
1 row in set (0.00 sec)
```

20. How many records exist in the actor table in the Sakila database?

```
mysql> select count(*) from actor;
+----------+
| count(*) |
+----------+
|      200 |
+----------+
1 row in set (0.00 sec)
```