Date: 12/04/2024

Assignment

1. Create a database "college".

```
mysql> CREATE DATABASE college;
Query OK, 1 row affected (0.03 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| college            |
| empdatabase        |
| information_schema |
| mysql              |
| performance_schema |
| studentdatabase    |
| sys                |
| xyz                |
+--------------------+
8 rows in set (0.00 sec)
```

2. Create a table 'student' with columns (id, name, date of birth, gender, branch, section, year, address) under the "college" database.

```
mysql> USE college;
Database changed
mysql> CREATE TABLE student (id VARCHAR(5), name VARCHAR(10), dateofbirth VARCHAR(10),
    -> gender VARCHAR(6), branch VARCHAR(15), section VARCHAR(1), year INT, address VARCHAR(15));
Query OK, 0 rows affected (0.15 sec)

mysql> DESC student;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | varchar(5)  | YES  |     | NULL    |       |
| name        | varchar(10) | YES  |     | NULL    |       |
| dateofbirth | varchar(10) | YES  |     | NULL    |       |
| gender      | varchar(6)  | YES  |     | NULL    |       |
| branch      | varchar(15) | YES  |     | NULL    |       |
| section     | varchar(1)  | YES  |     | NULL    |       |
| year        | int         | YES  |     | NULL    |       |
| address     | varchar(15) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
8 rows in set (0.01 sec)
```

3. Insert 10 rows into the table.

```
mysql> INSERT INTO student VALUES ('S01', 'Alan', '01-05-2003', 'Male', 'Computer Sci', 'A', 3, 'Mangalore');
Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO student VALUES ('S02', 'Gary', '15-03-2003', 'Male', 'Computer Sci', 'A', 3, 'Bengaluru');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S03', 'Jennifer', '11-03-2002', 'Female', 'Computer Sci', 'B', 3, 'Bengaluru');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO student VALUES ('S04', 'Anita', '16-08-2002', 'Female', 'Computer Sci', 'B', 2, 'Ujire');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO student VALUES ('S05', 'Jared', '19-08-2003', 'Male', 'Mechanical', 'A', 2, 'Udupi');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S06', 'Matthew', '18-01-2003', 'Male', 'Mechanical', 'A', 1, 'Bengaluru');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S07', 'Tina', '08-01-2002', 'Female', 'Computer Sci', 'B', 3, 'Mangalore');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S08', 'Emma', '09-10-2002', 'Female', 'Electrical', 'A', 3, 'Mangalore');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S09', 'Ethan', '01-04-2002', 'Male', 'Electrical', 'A', 3, 'Ujire');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S10', 'Tom', '23-07-2002', 'Male', 'Computer Sci', 'B', 3, 'Dharmasthala');
Query OK, 1 row affected (0.01 sec)
```

4. Create a user with username: 'admin' and password: 'admin@123' with all the permissions like select, create, alter, drop, truncate, insert, update, and delete.

```
mysql> CREATE USER admin IDENTIFIED BY 'admin@123';
Query OK, 0 rows affected (0.02 sec)

mysql> GRANT SELECT, CREATE, ALTER, DROP, INSERT, UPDATE, DELETE ON student TO admin;
Query OK, 0 rows affected (0.01 sec)
```

5. Create user username: 'principal' and password: 'principal@123' with select, insert, update, and delete permissions.

```
mysql> CREATE USER principal IDENTIFIED BY 'principal@123';
Query OK, 0 rows affected (0.02 sec)

mysql> GRANT SELECT, INSERT, UPDATE, DELETE ON student TO principal;
Query OK, 0 rows affected (0.02 sec)
```

6. Create user username: 'faculty' and password: 'faculty@123' with select, and update permissions.

```
mysql> CREATE USER faculty IDENTIFIED BY 'faculty@123';
Query OK, 0 rows affected (0.03 sec)

mysql> GRANT SELECT, UPDATE ON student TO faculty;
Query OK, 0 rows affected (0.02 sec)
```

7. Create user username: 'student' without a password and with select
   permission only.

```
mysql> CREATE USER student;
Query OK, 0 rows affected (0.02 sec)

mysql> GRANT SELECT ON student TO student;
Query OK, 0 rows affected (0.02 sec)
```

8. Login with the 'admin' user and add a new column phone number.

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u admin -p
Enter password: *********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 42
Server version: 8.0.36 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE college;
Database changed
mysql> ALTER TABLE student ADD (Phone VARCHAR(10));
Query OK, 0 rows affected (0.10 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC student;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | varchar(5)  | YES  |     | NULL    |       |
| name        | varchar(10) | YES  |     | NULL    |       |
| dateofbirth | varchar(10) | YES  |     | NULL    |       |
| gender      | varchar(6)  | YES  |     | NULL    |       |
| branch      | varchar(15) | YES  |     | NULL    |       |
| section     | varchar(1)  | YES  |     | NULL    |       |
| year        | int         | YES  |     | NULL    |       |
| address     | varchar(15) | YES  |     | NULL    |       |
| Phone       | varchar(10) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
9 rows in set (0.01 sec)
```

9. Login with the 'principal' user and add 5 more new rows to the table with all
   column values including phone numbers.

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u principal -p
Enter password: *************
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 45
Server version: 8.0.36 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE college;
Database changed
mysql> INSERT INTO student VALUES ('S11', 'Josh', '30-05-2001', 'Male', 'Electrical', 'A', '4', 'Bengaluru', '1234567890');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO student VALUES ('S12', 'Toni', '19-05-2002', 'Female', 'Electrical', 'A', '4', 'Ujire', '2345678901');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S13', 'Drew', '16-03-2002', 'Female', 'Electrical', 'A', '2', 'Ujire', '3456789012');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S14', 'Morgan', '13-11-2002', 'Male', 'Mechanical', 'A', '2', 'Mangalore', '4567890123');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO student VALUES ('S15', 'Joe', '06-10-2002', 'Male', 'Computer Sci', 'A', '1', 'Mangalore', '5678901234');
Query OK, 1 row affected (0.01 sec)
```

10.   Login with the 'faculty' user and update all the 10 students' phone
        numbers.

```
mysql> UPDATE student SET Phone = '9876543210' WHERE id = 'S01';
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '8765432109' WHERE id = 'S02';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '7654321098' WHERE id = 'S03';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '6543210987' WHERE id = 'S04';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '5432109876' WHERE id = 'S05';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '4321098765' WHERE id = 'S06';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '3210987654' WHERE id = 'S07';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '2109876543' WHERE id = 'S08';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '1098765432' WHERE id = 'S09';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE student SET Phone = '1987654320' WHERE id = 'S10';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

11. Login with the 'student' user and display the following outputs:

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u student
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 52
Server version: 8.0.36 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE college;
Database changed
```

a. Display all the student data records.

```
mysql> SELECT * FROM student;
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
| id   | name    | dateofbirth| gender | branch       | section | year | address      | Phone      |
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
| S01  | Alan    | 01-05-2003 | Male   | Computer Sci | A       |    3 | Mangalore    | 9876543210 |
| S02  | Gary    | 15-03-2003 | Male   | Computer Sci | A       |    3 | Bengaluru    | 8765432109 |
| S03  | Jennifer| 11-03-2002 | Female | Computer Sci | B       |    3 | Bengaluru    | 7654321098 |
| S04  | Anita   | 16-08-2002 | Female | Computer Sci | B       |    2 | Ujire        | 6543210987 |
| S05  | Jared   | 19-08-2003 | Male   | Mechanical   | A       |    2 | Udupi        | 5432109876 |
| S06  | Matthew | 18-01-2003 | Male   | Mechanical   | A       |    1 | Bengaluru    | 4321098765 |
| S07  | Tina    | 08-01-2002 | Female | Computer Sci | B       |    3 | Mangalore    | 3210987654 |
| S08  | Emma    | 09-10-2002 | Female | Electrical   | A       |    3 | Mangalore    | 2109876543 |
| S09  | Ethan   | 01-04-2002 | Male   | Electrical   | A       |    3 | Ujire        | 1098765432 |
| S10  | Tom     | 23-07-2002 | Male   | Computer Sci | B       |    3 | Dharmasthala | 1987654320 |
| S11  | Josh    | 30-05-2001 | Male   | Electrical   | A       |    4 | Bengaluru    | 1234567890 |
| S12  | Toni    | 19-05-2002 | Female | Electrical   | A       |    4 | Ujire        | 2345678901 |
| S13  | Drew    | 16-03-2002 | Female | Electrical   | A       |    2 | Ujire        | 3456789012 |
| S14  | Morgan  | 13-11-2002 | Male   | Mechanical   | A       |    2 | Mangalore    | 4567890123 |
| S15  | Joe     | 06-10-2002 | Male   | Computer Sci | A       |    1 | Mangalore    | 5678901234 |
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
15 rows in set (0.00 sec)
```

b. Display only one student data record with any given phone number.

```
mysql> SELECT * FROM student WHERE Phone = '9876543210';
+------+-------+------------+--------+--------------+---------+------+-----------+------------+
| id   | name  | dateofbirth| gender | branch       | section | year | address   | Phone      |
+------+-------+------------+--------+--------------+---------+------+-----------+------------+
| S01  | Alan  | 01-05-2003 | Male   | Computer Sci | A       |    3 | Mangalore | 9876543210 |
+------+-------+------------+--------+--------------+---------+------+-----------+------------+
1 row in set (0.00 sec)
```

c. Display students from any one branch

```
mysql> SELECT * FROM student WHERE Branch = 'Computer Sci';
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
| id   | name    | dateofbirth| gender | branch       | section | year | address      | Phone      |
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
| S01  | Alan    | 01-05-2003 | Male   | Computer Sci | A       |    3 | Mangalore    | 9876543210 |
| S02  | Gary    | 15-03-2003 | Male   | Computer Sci | A       |    3 | Bengaluru    | 8765432109 |
| S03  | Jennifer| 11-03-2002 | Female | Computer Sci | B       |    3 | Bengaluru    | 7654321098 |
| S04  | Anita   | 16-08-2002 | Female | Computer Sci | B       |    2 | Ujire        | 6543210987 |
| S07  | Tina    | 08-01-2002 | Female | Computer Sci | B       |    3 | Mangalore    | 3210987654 |
| S10  | Tom     | 23-07-2002 | Male   | Computer Sci | B       |    3 | Dharmasthala | 1987654320 |
| S15  | Joe     | 06-10-2002 | Male   | Computer Sci | A       |    1 | Mangalore    | 5678901234 |
+------+---------+------------+--------+--------------+---------+------+--------------+------------+
7 rows in set (0.00 sec)
```

d. Display students from any specific branch and specific section.

```
mysql> SELECT * FROM student WHERE Branch = 'Computer Sci' AND Section = 'B';
+------+----------+------------+--------+--------------+---------+------+--------------+------------+
| id   | name     | dateofbirth | gender | branch       | section | year | address      | Phone      |
+------+----------+------------+--------+--------------+---------+------+--------------+------------+
| S03  | Jennifer | 11-03-2002 | Female | Computer Sci | B       |    3 | Bengaluru    | 7654321098 |
| S04  | Anita    | 16-08-2002 | Female | Computer Sci | B       |    2 | Ujire        | 6543210987 |
| S07  | Tina     | 08-01-2002 | Female | Computer Sci | B       |    3 | Mangalore    | 3210987654 |
| S10  | Tom      | 23-07-2002 | Male   | Computer Sci | B       |    3 | Dharmasthala | 1987654320 |
+------+----------+------------+--------+--------------+---------+------+--------------+------------+
4 rows in set (0.00 sec)
```

e. Display girl students from the table.

```
mysql> SELECT * FROM student WHERE Gender = 'Female';
+------+----------+------------+--------+--------------+---------+------+-----------+------------+
| id   | name     | dateofbirth | gender | branch       | section | year | address   | Phone      |
+------+----------+------------+--------+--------------+---------+------+-----------+------------+
| S03  | Jennifer | 11-03-2002 | Female | Computer Sci | B       |    3 | Bengaluru | 7654321098 |
| S04  | Anita    | 16-08-2002 | Female | Computer Sci | B       |    2 | Ujire     | 6543210987 |
| S07  | Tina     | 08-01-2002 | Female | Computer Sci | B       |    3 | Mangalore | 3210987654 |
| S08  | Emma     | 09-10-2002 | Female | Electrical   | A       |    3 | Mangalore | 2109876543 |
| S12  | Toni     | 19-05-2002 | Female | Electrical   | A       |    4 | Ujire     | 2345678901 |
| S13  | Drew     | 16-03-2002 | Female | Electrical   | A       |    2 | Ujire     | 3456789012 |
+------+----------+------------+--------+--------------+---------+------+-----------+------------+
6 rows in set (0.00 sec)
```

12.   Revoke all the permissions from the user 'admin'.

```
mysql> REVOKE ALL PRIVILEGES ON student FROM admin;
Query OK, 0 rows affected (0.01 sec)
```

13.   Revoke only insert permission from the user 'principal'.

```
mysql> REVOKE INSERT ON student FROM principal;
Query OK, 0 rows affected (0.01 sec)
```

14.   Revoke update permission from the user 'faculty'.

```
mysql> REVOKE UPDATE ON student FROM faculty;
Query OK, 0 rows affected (0.01 sec)
```

15.   Revoke all the permissions from the user 'student'.

```
mysql> REVOKE ALL PRIVILEGES ON student FROM student;
Query OK, 0 rows affected (0.01 sec)
```