

Date: 12/04/2024

Assignment

1. Create a database “college”.

```
mysql> create database college;
Query OK, 1 row affected (0.09 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 int auto_increment primary key,
    -> name varchar(50),
    -> date_of_birth DATE,
    -> gender ENUM('Male', 'Female'),
    -> branch VARCHAR(50),
    -> section VARCHAR(10),
    -> year INT,
    -> address VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.18 sec)
```

3. Insert 10 rows into the table.

```
mysql> INSERT INTO student (name, date_of_birth, gender, branch, section, year, address)
-> VALUES
-> ('John ', '1998-05-15', 'Male', 'Computer Science', 'A', 1, '123 Main St, City'),
-> ('Jane ', '1999-08-20', 'Female', 'Electrical Engineering', 'B', 2, '456 Elm St, Town'),
-> ('Michael ', '1997-10-10', 'Male', 'Mechanical Engineering', 'A', 3, '789 Oak St, Village'),
-> ('Emily ', '2000-03-25', 'Female', 'Civil Engineering', 'C', 1, '101 Pine St, Countryside'),
-> ('David ', '1999-01-05', 'Male', 'Computer Science', 'B', 2, '222 Maple St, Suburb'),
-> ('Sarah ', '1998-09-12', 'Female', 'Electrical Engineering', 'A', 3, '333 Cedar St, Rural'),
-> ('Matthew ', '1997-07-30', 'Male', 'Mechanical Engineering', 'C', 1, '444 Birch St, Hamlet'),
-> ('Olivia ', '2000-12-18', 'Female', 'Civil Engineering', 'B', 2, '555 Walnut St, Town'),
-> ('Ethan ', '1999-04-08', 'Male', 'Computer Science', 'A', 3, '666 Pine St, City'),
-> ('Ava ', '1998-11-22', 'Female', 'Electrical Engineering', 'C', 1, '777 Oak St, Village');
Query OK, 10 rows affected (0.05 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

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'@'localhost' IDENTIFIED BY 'admin@123';
Query OK, 0 rows affected (0.11 sec)
```

```
mysql> GRANT SELECT, CREATE, ALTER, INSERT, UPDATE, DELETE ON college.* TO 'admin'@'localhost';
Query OK, 0 rows affected (0.02 sec)
```

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

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

```
mysql>
mysql> GRANT SELECT, INSERT, UPDATE, DELETE ON college.* TO 'principal'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

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

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

```
mysql> GRANT SELECT, UPDATE ON college.* TO 'faculty'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

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

```
mysql> CREATE USER student;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> GRANT SELECT ON college.* TO student;
Query OK, 0 rows affected (0.01 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 31
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 column phone_number varchar(20);
Query OK, 0 rows affected (0.26 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

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 32
Server version: 8.0.36 MySQL Community Server - GPL

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

mysql> USE college;
Database changed
mysql>
mysql> INSERT INTO student (name, date_of_birth, gender, branch, section, year, address, phone_number)
    -> VALUES
    -> ('Rakesh', '2001-01-01', 'Male', 'Computer Science', 'A', 1, '123 Main St', '1111111111'),
    -> ('Sneha', '2002-02-02', 'Female', 'Electrical Engineering', 'B', 2, '456 Elm St', '2222222222'),
    -> ('Raghu', '2003-03-03', 'Male', 'Mechanical Engineering', 'A', 3, '789 Oak St', '3456789012'),
    -> ('Appu', '2004-04-04', 'Female', 'Civil Engineering', 'C', 1, '101 Pine St', '4567890123'),
    -> ('Akash', '2005-05-05', 'Male', 'Computer Science', 'B', 2, '222 Maple St', '5678901234');
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

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

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u faculty -p
Enter password: *****
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 33
Server version: 8.0.36 MySQL Community Server - GPL

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

mysql> use college;
Database changed
mysql> update student
    -> set phone_number = case
    -> WHEN id = 1 THEN '111-111-1111'
    -> WHEN id = 2 THEN '222-222-2222'
    -> WHEN id = 3 THEN '333-333-3333'
    -> WHEN id = 4 THEN '444-444-4444'
    -> WHEN id = 5 THEN '555-555-5555'
    -> WHEN id = 6 THEN '666-666-6666'
    -> WHEN id = 7 THEN '777-777-7777'
    -> WHEN id = 8 THEN '888-888-8888'
    -> WHEN id = 9 THEN '999-999-9999'
    -> WHEN id = 10 THEN '000-000-0000'
    -> END;
Query OK, 15 rows affected (0.03 sec)
Rows matched: 15  Changed: 15  Warnings: 0
```

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

- Display all the student data records.

```
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 36
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> select *from student;
+----+-----+-----+-----+-----+-----+-----+-----+
| id | name | date_of_birth | gender | branch | section | year | address | phone_number |
+----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John | 1998-05-15 | Male | Computer Science | A | 1 | 123 Main St, City | 111-111-1111 |
| 2 | Jane | 1999-08-20 | Female | Electrical Engineering | B | 2 | 456 Elm St, Town | 222-222-2222 |
| 3 | Michael | 1997-10-10 | Male | Mechanical Engineering | A | 3 | 789 Oak St, Village | 333-333-3333 |
| 4 | Emily | 2000-03-25 | Female | Civil Engineering | C | 1 | 101 Pine St, Countryside | 444-444-4444 |
| 5 | David | 1999-01-05 | Male | Computer Science | B | 2 | 222 Maple St, Suburb | 555-555-5555 |
| 6 | Sarah | 1998-09-12 | Female | Electrical Engineering | A | 3 | 333 Cedar St, Rural | 666-666-6666 |
| 7 | Matthew | 1997-07-30 | Male | Mechanical Engineering | C | 1 | 444 Birch St, Hamlet | 777-777-7777 |
| 8 | Olivia | 2000-12-18 | Female | Civil Engineering | B | 2 | 555 Walnut St, Town | 888-888-8888 |
| 9 | Ethan | 1999-04-08 | Male | Computer Science | A | 3 | 666 Pine St, City | 999-999-9999 |
| 10 | Ava | 1998-11-22 | Female | Electrical Engineering | C | 1 | 777 Oak St, Village | 000-000-0000 |
| 11 | Rakesh | 2001-01-01 | Male | Computer Science | A | 1 | 123 Main St | 123-456-7890 |
| 12 | Sneha | 2002-02-02 | Female | Electrical Engineering | B | 2 | 456 Elm St | 234-567-8901 |
| 13 | Raghu | 2003-03-03 | Male | Mechanical Engineering | A | 3 | 789 Oak St | 345-678-9012 |
| 14 | Appu | 2004-04-04 | Female | Civil Engineering | C | 1 | 101 Pine St | 456-789-0123 |
| 15 | Akash | 2005-05-05 | Male | Computer Science | B | 2 | 222 Maple St | 567-890-1234 |
+----+-----+-----+-----+-----+-----+-----+-----+
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_number='123-456-7890'
-> ;
+----+-----+-----+-----+-----+-----+-----+-----+
| id | name | date_of_birth | gender | branch | section | year | address | phone_number |
+----+-----+-----+-----+-----+-----+-----+-----+
| 11 | Rakesh | 2001-01-01 | Male | Computer Science | A | 1 | 123 Main St | 123-456-7890 |
+----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

c. Display students from any one branch

```
mysql> select *from student where branch='Computer Science'
-> ;
+----+-----+-----+-----+-----+-----+-----+-----+
| id | name | date_of_birth | gender | branch | section | year | address | phone_number |
+----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John | 1998-05-15 | Male | Computer Science | A | 1 | 123 Main St, City | 111-111-1111 |
| 5 | David | 1999-01-05 | Male | Computer Science | B | 2 | 222 Maple St, Suburb | 555-555-5555 |
| 9 | Ethan | 1999-04-08 | Male | Computer Science | A | 3 | 666 Pine St, City | 999-999-9999 |
| 11 | Rakesh | 2001-01-01 | Male | Computer Science | A | 1 | 123 Main St | 123-456-7890 |
| 15 | Akash | 2005-05-05 | Male | Computer Science | B | 2 | 222 Maple St | 567-890-1234 |
+----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

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

```
mysql> select *from student where branch='Computer Science' and section='A';
+----+-----+-----+-----+-----+-----+-----+-----+
| id | name | date_of_birth | gender | branch | section | year | address | phone_number |
+----+-----+-----+-----+-----+-----+-----+-----+
| 1 | John | 1998-05-15 | Male | Computer Science | A | 1 | 123 Main St, City | 111-111-1111 |
| 9 | Ethan | 1999-04-08 | Male | Computer Science | A | 3 | 666 Pine St, City | 999-999-9999 |
| 11 | Rakesh | 2001-01-01 | Male | Computer Science | A | 1 | 123 Main St | 123-456-7890 |
+----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

e. Display girl students from the table.

```
mysql> select *from student where gender='Female';
+----+-----+-----+-----+-----+-----+-----+-----+
| id | name | date_of_birth | gender | branch | section | year | address | phone_number |
+----+-----+-----+-----+-----+-----+-----+-----+
| 2 | Jane | 1999-08-20 | Female | Electrical Engineering | B | 2 | 456 Elm St, Town | 222-222-2222 |
| 4 | Emily | 2000-03-25 | Female | Civil Engineering | C | 1 | 101 Pine St, Countryside | 444-444-4444 |
| 6 | Sarah | 1998-09-12 | Female | Electrical Engineering | A | 3 | 333 Cedar St, Rural | 666-666-6666 |
| 8 | Olivia | 2000-12-18 | Female | Civil Engineering | B | 2 | 555 Walnut St, Town | 888-888-8888 |
| 10 | Ava | 1998-11-22 | Female | Electrical Engineering | C | 1 | 777 Oak St, Village | 000-000-0000 |
| 12 | Sneha | 2002-02-02 | Female | Electrical Engineering | B | 2 | 456 Elm St | 234-567-8901 |
| 14 | Appu | 2004-04-04 | Female | Civil Engineering | C | 1 | 101 Pine St | 456-789-0123 |
+----+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

12. Revoke all the permissions from the user ‘admin’.

```
mysql> REVOKE ALL PRIVILEGES ON *.* FROM 'admin'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

13. Revoke only insert permission from the user ‘principal’.

```
mysql> REVOKE INSERT ON college.* FROM 'principal'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

14. Revoke update permission from the user ‘faculty’.

```
mysql> REVOKE UPDATE ON college.* FROM 'faculty'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

15. Revoke all the permissions from the user ‘student’.

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