CLASS: F.Y. MCA   **SEM: I**

COURSE CODE: MC504   **SUBJECT NAME: DATABASE MANAGEMENT SYSTEM LAB**

ROLL NO. : 2022510034   **BATCH: B**

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EXPERIMENT NO: 04

EXPERIMENT TITLE: To study Data Control Language and Transaction Control Language
statements

DCL commands :
- GRANT Command
- REVOKE Command

TCL commands :
- COMMIT Command
- ROLLBACK Command
- SAVEPOINT Command

1. **GRANT Command :-**
   The GRANT command allow users access privileges to the database

   Syntax :-
   GRANT privileges_names ON object TO user

2. **REVOKE Command :-**
   The REVOKE Command withdraw users access privileges given by using the GRANT command

   Syntax :-
   REVOKE privileges ON object FROM user

3. **COMMIT**
   Commit command is to commit Transaction after insert or delete in the database.

   Syntax :-
   Commit;

4. **ROLLBACK**
   Rollback command is to rollback a transaction in case of any error occurs

   Syntax :-
   Rollback;

5. **SAVEPOINT**
   The SAVEPOINT command in TCL is basically used to temporarily save a transaction so that we can roll back to that point (saved point) whenever required.

   Syntax :-
   SAVEPOINT savepoint_name;

Outputs:

GRANT Command

REVOKE Command

COMMIT & ROLLBACK Commands


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

mysql> use fymca;
Database changed
mysql>
mysql> create table details(
    -> id int,
    -> name varchar(20),
    -> email varchar(20),
    -> gender varchar(10));
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> insert into details values
    -> (1,'Rishikesh','rishi@co.in','Male'),
    -> (2,'Rutuja','rutu@co.in','Female'),
    -> (3,'Aakash','aakash@co.in','Male');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql>
mysql> select * from details;
+------+-----------+--------------+--------+
| id   | name      | email        | gender |
+------+-----------+--------------+--------+
|    1 | Rishikesh | rishi@co.in  | Male   |
|    2 | Rutuja    | rutu@co.in   | Female |
|    3 | Aakash    | aakash@co.in | Male   |
+------+-----------+--------------+--------+
3 rows in set (0.00 sec)

mysql> set autocommit=0;
Query OK, 0 rows affected (0.03 sec)

mysql> start transaction;
Query OK, 0 rows affected (0.01 sec)

mysql> insert into details values
    -> (4,'Neha','neha@co.in','Female');
```



```
Query OK, 0 rows affected (0.03 sec)

mysql> start transaction;
Query OK, 0 rows affected (0.01 sec)

mysql> insert into details values
    -> (4,'Neha','neha@co.in','Female');
Query OK, 1 row affected (0.03 sec)

mysql> commit;
Query OK, 0 rows affected (0.01 sec)

mysql> delete from details where id = 3;
Query OK, 1 row affected (0.03 sec)

mysql> select * from details;
+------+-----------+--------------+--------+
| id   | name      | email        | gender |
+------+-----------+--------------+--------+
|    1 | Rishikesh | rishi@co.in  | Male   |
|    2 | Rutuja    | rutu@co.in   | Female |
|    4 | Neha      | neha@co.in   | Female |
+------+-----------+--------------+--------+
3 rows in set (0.01 sec)

mysql> rollback;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from details;
+------+-----------+--------------+--------+
| id   | name      | email        | gender |
+------+-----------+--------------+--------+
|    1 | Rishikesh | rishi@co.in  | Male   |
|    2 | Rutuja    | rutu@co.in   | Female |
|    3 | Aakash    | aakash@co.in | Male   |
|    4 | Neha      | neha@co.in   | Female |
+------+-----------+--------------+--------+
4 rows in set (0.00 sec)

mysql>
```

SAVEPOINT Command

```
mysql> use fymca
Database changed
mysql>
mysql>
mysql> set autocommit = 0;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> select * from details;
+------+-----------+----------------+--------+
| id   | name      | email          | gender |
+------+-----------+----------------+--------+
|    1 | Rishikesh | rishi@co.in    | Male   |
|    2 | Rutuja    | rutu@co.in     | Female |
|    3 | Aakash    | aakash@co.in   | Male   |
|    4 | Neha      | neha@co.in     | Female |
+------+-----------+----------------+--------+
4 rows in set (0.00 sec)

mysql>
mysql> insert into details values
    -> (5,'Karan','karan45@co.in','Male');
Query OK, 1 row affected (0.01 sec)

mysql> select * from details;
+------+-----------+----------------+--------+
| id   | name      | email          | gender |
+------+-----------+----------------+--------+
|    1 | Rishikesh | rishi@co.in    | Male   |
|    2 | Rutuja    | rutu@co.in     | Female |
|    3 | Aakash    | aakash@co.in   | Male   |
|    4 | Neha      | neha@co.in     | Female |
|    5 | Karan     | karan45@co.in  | Male   |
+------+-----------+----------------+--------+
5 rows in set (0.00 sec)

mysql> savepoint insertion;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> savepoint insertion;
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> update details set name = 'Rahul', email='rahul88@co.in' where id = 3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from details;
+------+-----------+----------------+--------+
| id   | name      | email          | gender |
+------+-----------+----------------+--------+
|    1 | Rishikesh | rishi@co.in    | Male   |
|    2 | Rutuja    | rutu@co.in     | Female |
|    3 | Rahul     | rahul88@co.in  | Male   |
|    4 | Neha      | neha@co.in     | Female |
|    5 | Karan     | karan45@co.in  | Male   |
+------+-----------+----------------+--------+
5 rows in set (0.00 sec)

mysql> savepoint updation;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> rollback to insertion;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from details;
+------+-----------+----------------+--------+
| id   | name      | email          | gender |
+------+-----------+----------------+--------+
|    1 | Rishikesh | rishi@co.in    | Male   |
|    2 | Rutuja    | rutu@co.in     | Female |
|    3 | Aakash    | aakash@co.in   | Male   |
|    4 | Neha      | neha@co.in     | Female |
|    5 | Karan     | karan45@co.in  | Male   |
+------+-----------+----------------+--------+
5 rows in set (0.00 sec)

mysql>
```