

Ex. No: 3

SQL DCL & TCL COMMANDS

Date:

AIM:

To write SQL queries to execute different DCL and TCL commands.

Data base created for this exercise is:

| customer_id integer | sale_date date | sale_amount numeric | salesperson character varying (255) | store_state character varying (255) | order_id character varying (255) |
|------------------------|-------------------|------------------------|--|--|-------------------------------------|
| 1001 | 2020-05-23 | 1200 | Raj K | KA | 1001 |
| 1001 | 2020-05-22 | 1200 | M K | NULL | 1002 |
| 1002 | 2020-05-23 | 1200 | Malika Rakesh | MH | 1003 |
| 1003 | 2020-05-22 | 1500 | Malika Rakesh | MH | 1004 |
| 1004 | 2020-05-22 | 1210 | M K | NULL | 1003 |
| 1005 | 2019-12-12 | 4200 | R K Rakesh | MH | 1007 |
| 1002 | 2020-05-21 | 1200 | Molly Samberg | DL | 1001 |

Data Control Language (DCL) Commands:

DCL includes commands such as GRANT and REVOKE which mainly deal with the rights, permissions, and other controls of the database system.

List of DCL commands:

- **GRANT:** This command gives users access privileges to the database.

Syntax,

```
GRANT privileges_names ON object TO user;
```

Example:

Create user first identified by passwd;

Grant select on customers to first;

- **REVOKE:** This command withdraws the user's access privileges given by using the GRANT command.

Syntax,

```
REVOKE privileges ON object FROM user;
```

Example:

Revoke select on customers from first;

Transaction Control Language (TCL) Commands:

- **COMMIT**: Commits a Transaction.

Syntax:

```
COMMIT;
```

Example:

```
INSERT INTO customers  
VALUES ('1006','2020-03-04',3200,'DL', '1008');
```

Commit;

Select * from customers;

- **ROLLBACK**: Rollbacks a transaction in case of any error occurs.

Syntax:

```
Rollback;
```

Example:

```
DELETE FROM customers  
WHERE store_state = 'MH'  
AND customer_id = '1002';
```

Select * from customers;

Rollback;

Select * from customers;

- **SAVEPOINT**: Sets a savepoint within a transaction.

Syntax:

```
SAVEPOINT SAVEPOINT_NAME;
```

This command is used only in the creation of SAVEPOINT among all the transactions.

In general ROLLBACK is used to undo a group of transactions.

Syntax for rolling back to Savepoint command:

```
ROLLBACK TO SAVEPOINT_NAME;
```

Example:

```
SAVEPOINT SP1;  
DELETE FROM customers  
WHERE store_state = 'MH'  
AND customer_id = '1002';  
SAVEPOINT SP2;  
ROLLBACK TO SP1;  
Select * from customers;
```

Result:

Thus the DCL and TCL commands are used to modify or manipulate data records present in the customer database tables.