

Ex. No: 3 SQL DCL & TCL COMMANDS

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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;

OUTPUT:

Select C:\Users\Sirivanth\Downloads\reshvanth dbms lab\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus

```
SQL> grant select on customers to RA1911030010097;

Grant succeeded.
```

```
SQL> INSERT INTO customers VALUES(1001, '23.MAY.2020', 1200, 'KA', 'Ganesh', 1001);

1 row created.

SQL> select * from customers;

CUSTOMERID SALEDATE  SALEAMOUNT
-----
STORESTATE
-----
SALESPERSON
-----
ORDERID
-----
      1001 23-MAY-20      1200
KA
Ganesh
      1001
```

- **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;

Select C:\Users\Sirivanth\Downloads\reshvanth dbms lab\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus

```
SQL> revoke select on customers from RA1911030010097;

Revoke succeeded.

SQL> commit;
```

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;

```
Revoke succeeded.
```

```
SQL> commit;
```

```
Commit complete.
```

```
SQL> delete from customers where customer_id = 1001;
```

- **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;

```
SQL> rollback to sp1;
```

```
Rollback complete.
```

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

Syntax:

SAVEPOINT SAVEPOINT_NAME;

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;

```
SQL> savepoint sp1;  
  
Savepoint created.
```

Result:

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

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.