

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;

```
SQL> GRANT SELECT ON EMPLOYEE TO RA1911030010090;  
Grant succeeded.
```

```
SQL> SELECT * FROM RA1911030010090.CUSTOMERS;
```

CUS_ID	SALE_DATE	SALE_AMT	SALESPERSON	STORE_STAT	ORDER_ID
1001	23-MAY-20	1200	RAJ K	KA	1001

- [REVOKE](#): This command withdraws the user's access privileges given by using the GRANT command.

SYNTAX:

REVOKE PRIVILEGES ON OBJECT FROM USER;

```
SQL> REVOKE SELECT ON EMPLOYEE FROM RA1911030010090;

Revoke succeeded.
```

Transaction Control Language (TCL) Commands:

- [COMMIT](#): Commits a Transaction.

SYNTAX:

COMMIT;

```
SQL> INSERT INTO EMPLOYEE VALUES('1006',TO_DATE('2020-03-04','YYYY-MM-DD'),'3200','Rishal Ramesh','DL','1008');

1 row created.

SQL> COMMIT;

Commit complete.

SQL> SELECT * FROM EMPLOYEE;
```

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	SALESPERSON	STORE_STAT	ORDER_ID
1001	23-MAY-20	1200	Raj K	KA	1001
1001	22-MAY-20	1200	M K	NULL	1002
1002	23-MAY-20	1200	Malika Rakesh	MH	1003
1003	22-MAY-20	1500	Malika Rakesh	MH	1004
1004	22-MAY-20	1210	M K	NULL	1003
1005	12-DEC-19	4200	R K Rakesh	MH	1007
1002	21-MAY-20	1200	Molly Samberg	DL	1001
1006	04-MAR-20	3200	Rishal Ramesh	DL	1008

```
8 rows selected.
```

- [ROLLBACK:](#) Rollbacks a transaction in case of any error occurs.

SYNTAX:

ROLLBACK;

```
SQL> DELETE FROM EMPLOYEE WHERE STORE_STATE='DL' AND CUSTOMER_ID='1006';

1 row deleted.
```

```
SQL> SELECT * FROM EMPLOYEE;
```

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	SALESPERSON	STORE_STAT	ORDER_ID
1001	23-MAY-20	1200	Raj K	KA	1001
1001	22-MAY-20	1200	M K	NULL	1002
1002	23-MAY-20	1200	Malika Rakesh	MH	1003
1003	22-MAY-20	1500	Malika Rakesh	MH	1004
1004	22-MAY-20	1210	M K	NULL	1003
1005	12-DEC-19	4200	R K Rakesh	MH	1007
1002	21-MAY-20	1200	Molly Samberg	DL	1001

```
7 rows selected.
```

```
SQL> ROLLBACK;
```

```
Rollback complete.
```

```
SQL> SELECT * FROM EMPLOYEE;
```

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	SALESPERSON	STORE_STAT	ORDER_ID
1001	23-MAY-20	1200	Raj K	KA	1001
1001	22-MAY-20	1200	M K	NULL	1002
1002	23-MAY-20	1200	Malika Rakesh	MH	1003
1003	22-MAY-20	1500	Malika Rakesh	MH	1004
1004	22-MAY-20	1210	M K	NULL	1003
1005	12-DEC-19	4200	R K Rakesh	MH	1007
1002	21-MAY-20	1200	Molly Samberg	DL	1001
1006	04-MAR-20	3200	Rishal Ramesh	DL	1008

```
8 rows selected.
```

- [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;

```
SQL> SAVEPOINT SP1;

Savepoint created.

SQL> DELETE FROM EMPLOYEE WHERE STORE_STATE='MH' AND CUSTOMER_ID='1005';

1 row deleted.

SQL> SAVEPOINT SP2;

Savepoint created.

SQL> ROLLBACK TO SP1;

Rollback complete.

SQL> SELECT * FROM EMPLOYEE;
```

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	SALESPERSON	STORE_STAT	ORDER_ID
1001	23-MAY-20	1200	Raj K	KA	1001
1001	22-MAY-20	1200	M K	NULL	1002
1002	23-MAY-20	1200	Malika Rakesh	MH	1003
1003	22-MAY-20	1500	Malika Rakesh	MH	1004
1004	22-MAY-20	1210	M K	NULL	1003
1005	12-DEC-19	4200	R K Rakesh	MH	1007
1002	21-MAY-20	1200	Molly Samberg	DL	1001
1006	04-MAR-20	3200	Rishal Ramesh	DL	1008

```
8 rows selected.
```

RESULT:

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