Data Control Language

DCL commands are used to grant and take back authority from any database user.

DCL Commands

- GRANT Command
- REVOKE Command

GRANT

GRANT is used to give user access privileges to a database.

Syntax

```
GRANT privilege_name ON objectname TO user;
```

REVOKE

REVOKE remove a privilege from a user. REVOKE helps the owner to cancel previously granted permissions.

Syntax

```
REVOKE privilege_name ON objectname FROM user;
```

DCL Examples

```
SELECT * FROM purchase;
```

Output:

```
| item         | price | customer_name |
|--------------|-------|---------------|
| Pen          |    20 | Sanskriti     |
| Bag          |  1000 | Sanskriti     |
| Vegetables   |   500 | Sanskriti     |
| Shoes        |  5000 | Sanskriti     |
| Water Bottle |   800 | XYZ           |
| Mouse        |   120 | ABC           |
| Sun Glasses  |  1350 | ABC           |
| Torch        |   850 | ABC           |
```

- Lets start with GRANT command:

```
GRANT INSERT ON purchase TO 'Sanskriti'@'localhost';
```

Output:

```
#### O/P Query OK, 0 rows affected (0.31 sec)
```

Description In above command we have granted user Sanskriti priviledge to `Insert` into purchase table.

- Now if I login as Sanskriti and try to run `Select` statement as given below what should happen?

```
SELECT * FROM purchase;
```

Output:

```
#### O/P ERROR 1142 (42000): SELECT command denied to user
'Sanskriti'@'localhost' for table 'purchase'
```

Yup as expected it gives error because we have granted insert operation to Sanskriti.

- So lets try inserting data to purchase table:

```
INSERT INTO purchase values("Laptop", 100000, "Sanskriti");
```

Output:

```
#### O/P Query OK, 1 row affected (0.34 sec)
```

Yes! It works!

- Now I am checking the purchase table from my original account:

```
SELECT * FROM purchase;
```

Output:

```
| item         | price  | customer_name |
|--------------|--------|---------------|
| Pen          |     20 | Sanskriti     |
| Bag          |   1000 | Sanskriti     |
| Vegetables   |    500 | Sanskriti     |
| Shoes        |   5000 | Sanskriti     |
| Water Bottle |    800 | XYZ           |
| Mouse        |    120 | ABC           |
| Sun Glasses  |   1350 | ABC           |
| Torch        |    850 | ABC           |
| Laptop       | 100000 | Sanskriti     |
```

As you can see, the row is inserted.

- Now lets try Revoke command:

```
REVOKE INSERT ON purchase FROM 'Sanskriti'@'localhost';
```

Output:

```
#### O/P Query OK, 0 rows affected (0.35 sec)
```

Now we have revoked the insert priviledge from Sanskriti.

- If Sanskriti runs insert statement it should give error:

  `INSERT INTO purchase values("Laptop", 100000, "Sanskriti");`

Output:

```
#### O/P ERROR 1142 (42000): INSERT command denied to user
'Sanskriti'@'localhost' for table 'purchase'
```

Conclusion

Through this tutorial we have learnt `DCL` commands and their usage.