

# DML - Data Manipulation Language

## Question 1 :



## Question 2 :

```
MariaDB [railways]> UPDATE USER SET age=FLOOR(DATEDIFF(NOW(), dob)/365);
Query OK, 33 rows affected (0.016 sec)
Rows matched: 33  Changed: 33  Warnings: 0
```

```
MariaDB [railways]> SELECT * FROM USER;
```

user_id	user_type	fname	lname	age	dob	pincode	street_name
ADM_001	ADMIN	Narendra	Modi	33	1989-04-14	600047	Old Jail Road
ADM_002	ADMIN	Droupadi	Murmu	32	1990-04-14	640012	High Street
ADM_003	ADMIN	Manmohan	Singh	31	1991-04-08	575003	Pumpwell Road
USR_001	PSGR	Ajit	Ullal	51	1971-01-01	560001	10, Janpath
USR_002	PSGR	Muhammed	Ali	21	2000-10-09	560003	10, Downing
USR_003	PSGR	Sai Deepak	Reddy	25	1996-12-12	600001	14, Kailsh Marg
USR_004	PSGR	Rudra	Agarwal	25	1996-12-13	600042	5, Lohia Garden
USR_005	PSGR	Rahul	Khanna	24	1997-12-14	600067	1, Pink Street
USR_006	PSGR	Nirmala	Seturaman	23	1998-12-15	560105	3, Blue Avenue
USR_007	PSGR	Smriti	Irani	22	1999-12-16	575014	4, Banvan Avenue

## Question 3 :

```
MariaDB [railways]> SELECT * FROM ROUTE_INFO WHERE (distance>=70 AND distance<=150);
```

from_station_no	from_station_name	to_station_no	to_station_name	distance	train_no
1	Bengaluru	2	Bangarpet	71	62621
4	Sholingur	5	Chennai	90	62621
3	Katpadi	5	Chennai	130	62621
1	Chennai	2	Sholingur	90	62620
4	Bangarpet	5	Bengaluru	71	62620
1	Chennai	3	Katpadi	129	62620
1	Chennai	2	Palakkad	130	25261
3	Kannur	4	Mangaluru	131	25261
1	Mangaluru	2	Kannur	131	25260
4	Palakkad	4	Chennai	130	25260
1	Bengaluru	2	Mysore	139	58451
3	Mysore	4	Bengaluru	139	58450

12 rows in set (0.001 sec)

## Question 4 :

```
MariaDB [railways]> SELECT * FROM ROUTE_INFO WHERE ((from_station_name= "Chennai" AND to_station_name="Sholingur") OR (from_station_name="Sholingur" AND to_station_name="Chennai"));
```

from_station_no	from_station_name	to_station_no	to_station_name	distance	train_no
4	Sholingur	5	Chennai	90	62621
1	Chennai	2	Sholingur	90	62620
2	Sholingur	5	Chennai	271	62620

3 rows in set (0.001 sec)

## Question 5 :

```
MariaDB [railways]> SELECT * FROM TRAIN WHERE NOT TRAIN_TYPE="Mail";
+-----+-----+-----+-----+-----+-----+
| train_no | name           | train_type | source   | destination | availability |
+-----+-----+-----+-----+-----+-----+
| 58450    | MAN-BEN Express | Fast       | Mangaluru | Bengaluru    | yes         |
| 58451    | BEN-MAN Express | Fast       | Bengaluru | Mangaluru    | yes         |
| 62620    | CHE-BEN Shatabdi | Superfast  | Chennai  | Bengaluru    | No          |
| 62621    | BEN-CHE Shatabdi | Superfast  | Bengaluru | Chennai      | yes         |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.001 sec)
```

## Question 6 :

```
MariaDB [railways]> SELECT name FROM TRAIN WHERE destination="Chennai" AND source="Bengaluru"
-> ;
+-----+
| name           |
+-----+
| BEN-CHE Shatabdi |
+-----+
1 row in set (0.001 sec)
```

## Question 7 :

```
MariaDB [railways]> SELECT UNIQUE train_no FROM TICKET WHERE departure="Chennai" AND departure_time>"08:00:00";
+-----+
| train_no |
+-----+
| 25261    |
+-----+
1 row in set (0.001 sec)

MariaDB [railways]> SELECT * FROM TRAIN WHERE train_no="25261"
-> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'SELECT * FROM TRAIN WHERE train_no="25261"' at line 1
MariaDB [railways]> SELECT * FROM TRAIN WHERE train_no=25261;
+-----+-----+-----+-----+-----+-----+
| train_no | name           | train_type | source   | destination | availability |
+-----+-----+-----+-----+-----+-----+
| 25261    | Mangaluru Mail | Mail       | Chennai  | Mangaluru    | Yes         |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.000 sec)
```

## Question 8 :

```
MariaDB [railways]> SELECT fname,lname FROM USER WHERE dob>"1980-01-01" AND dob<"1990-12-31"
-> ;
+-----+-----+
| fname   | lname  |
+-----+-----+
| Narendra | Modi   |
| Droupadi | Murmu  |
| Srihari  | Udupa  |
| Satish   | Kotian |
| Shradha  | Nayar  |
| Manisha  | Solanki |
| Bharti   | Devgan |
| Roopa    | Ram    |
| Pallavi  | Ram    |
| Ravi     | Naik   |
| Virat    | Murthy |
+-----+-----+
11 rows in set (0.001 sec)
```

### Question 9 :

```
MariaDB [railways]> SELECT fname,lname FROM USER WHERE fname LIKE 'S%';
```

fname	lname
Sai Deepak	Reddy
Smriti	Irani
Samanta	Prabhu
Subbu	Saravana
Sheela	Dixit
Suma	Sampat
Srihari	Udupa
Satish	Kotian
Shradha	Nayar

```
9 rows in set (0.000 sec)
```

### Question10 :

```
MariaDB [railways]> SELECT availability FROM COMPARTMENT WHERE type="I Class" AND train_no="62621";
```

availability
6

```
1 row in set (0.001 sec)
```

### Question 11 :

```
MariaDB [railways]> SELECT pnr,transaction_id FROM PAYMENT_INFO WHERE bank="UNION BANK";
```

pnr	transaction_id
PNR012	243535
PNR015	758900
PNR010	867546
PNR003	978776

```
4 rows in set (0.000 sec)
```

### Question 12 :

```
MariaDB [railways]> CREATE OR REPLACE USER 'navin'@localhost IDENTIFIED BY 'password123';
Query OK, 0 rows affected (0.009 sec)

MariaDB [railways]> 
```

creating user, no perms as of now

```
[15:13:10] [~] >>> mysql -u navin -h localhost -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 10
Server version: 10.9.2-MariaDB Arch Linux

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show databases;
+-----+
| Database          |
+-----+
| information_schema |
+-----+
1 row in set (0.001 sec)
```

without any permissions

```
MariaDB [railways]> GRANT ALL PRIVILEGES ON *.* TO 'navin'@localhost IDENTIFIED BY 'password123';
Query OK, 0 rows affected (0.008 sec)

MariaDB [railways]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)

MariaDB [railways]> 
```

giving all permissions on all table

```
[15:15:21] [~] >>> mysql -u navin -h localhost -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.9.2-MariaDB Arch Linux

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show databases;
+-----+
| Database          |
+-----+
| information_schema |
| mysql             |
| performance_schema |
| railways          |
| sys               |
+-----+
5 rows in set (0.001 sec)

MariaDB [(none)]> 
```

After permissions

Question 13 :

```
MariaDB [railways]> GRANT SELECT, INSERT, UPDATE, DELETE ON railways.* TO 'navin'@'localhost';
Query OK, 0 rows affected (0.012 sec)

MariaDB [railways]> REVOKE UPDATE, DELETE ON railways.* FROM 'navin'@'localhost';
Query OK, 0 rows affected (0.008 sec)

MariaDB [railways]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)

MariaDB [railways]> REVOKE ALL PRIVILEGES ON *.* FROM 'navin'@'localhost' IDENTIFIED BY 'password123';
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'IDENTIFIED BY 'password123'' at line 1

MariaDB [railways]> REVOKE ALL PRIVILEGES ON *.* FROM 'navin'@'localhost';
Query OK, 0 rows affected (0.008 sec)

MariaDB [railways]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)

MariaDB [railways]> REVOKE UPDATE, DELETE ON railways.* FROM 'navin'@'localhost';
Query OK, 0 rows affected (0.012 sec)

MariaDB [railways]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.001 sec)

MariaDB [railways]>
```

Altering permissions on tables

```
[15:22:07] [~] >>> mysql -u navin -h localhost -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 13
Server version: 10.9.2-MariaDB Arch Linux

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use railways;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [railways]> UPDATE TRAIN SET source="123" WHERE train_type="Fast";
ERROR 1142 (42000): UPDATE command denied to user 'navin'@'localhost' for table 'TRAIN'
MariaDB [railways]>
```