Assignment No. 11

Aim: Execute DDL statements which demonstrate the use of views. Try to update the base table using its corresponding view. Also consider restrictions on updatable views and perform view creation from multiple tables.

Objective:

- To study and implement views in DDL.

Theory :
In MySQL, View is a virtual table created by a query by joining one or more tables.

MySQL Create VIEW

A VIEW is created by SELECT statements. SELECT statements are used to take data from the source table to make a VIEW.

Syntax:

    CREATE [OR REPLACE] VIEW view_name AS
    SELECT columns
    FROM tables
    [WHERE conditions];

Parameters:

OR REPLACE: It is optional. It is used when a VIEW already exist. If you do not specify this clause and the VIEW already exists, the CREATE VIEW statement will return an error.

view_name: It specifies the name of the VIEW that you want to create in MySQL.

WHERE conditions: It is also optional. It specifies the conditions that must be met for the records to be included in the VIEW.

The following example will create a VIEW name "trainer". This is a virtual table made by taking data from the table "courses".

    CREATE VIEW trainer AS
    SELECT course_name, course_trainer
     FROM courses;

To see the created VIEW:

Syntax:

    SELECT * FROM view_name;

Let's see how it looks the created
VIEW:

    SELECT * FROM trainer;

MySQL Update VIEW

In MYSQL, the ALTER VIEW statement is used to modify or update the already created VIEW without dropping it.

Syntax:

    ALTER VIEW view_name AS
    SELECT columns

    FROM table
    WHERE conditions;

Example: The following example will alter the already created VIEW name "trainer" by adding a new column.

    ALTER VIEW trainer AS

    SELECT course_name, course_trainer, course_id
    FROM courses;

To see the altered VIEW:

    SELECT*FROM trainer;

MySQL Drop VIEW

You can drop the VIEW by using the DROP VIEW statement.

Syntax:

    DROP VIEW [IF EXISTS] view_name;

Parameters:

  view_name: It specifies the name of the VIEW that you want to drop.

  IF EXISTS: It is optional. If you do not specify this clause and the VIEW doesn't exist, the DROP VIEW statement will return an error.

Example:

    DROP VIEW trainer;

Conclusion:-

We have studied and implemented views in MYSQL using single table and multiple tables.

CODE:

1) Create View

```
mysql> CREATE VIEW EMPNAMEVIEW AS
-> SELECT LAST_NAME, FIRST_NAME, MIDDLE_NAME FROM EMPLOYEE;
Query OK, 0 rows affected (0.062 sec)
```

2) Show View

```
mysql> SELECT * FROM EMPNAMEVIEW;
+-----------+------------+-------------+
| LAST_NAME | FIRST_NAME | MIDDLE_NAME |
+-----------+------------+-------------+
| Smith | Jon | Q |
| Allen | Kevin | J |
| Doyle | Jean | K |
| Dennis | Lynn | S |
| Baker | Leslie | D |
| Wark | Cynthia | D |
+-----------+------------+-------------+
6 rows in set (0.002 sec)
```

3) Update View

```
mysql> ALTER VIEW EMPNAMEVIEW AS SELECT LAST_NAME, FIRST_NAME
FROM EMPLOYEE;
Query OK, 0 rows affected (0.063 sec)
MariaDB [college]> SELECT * FROM EMPNAMEVIEW;
+-----------+------------+
| LAST_NAME | FIRST_NAME |
+-----------+------------+
| Smith | Jon |
| Allen | Kevin |
| Doyle | Jean |
| Dennis | Lynn |
| Baker | Leslie |
| Wark | Cynthia |
+-----------+------------+
6 rows in set (0.003 sec)
```

4) Drop View

mysql> MariaDB [college]> DROP VIEW EMPNAMEVIEW;

Query OK, 0 rows affected (0.003 sec)

5) Insert Into Views

mysql> INSERT INTO EMPNAMEVIEW VALUES('PATIL','SHREYAS');

Query OK, 1 row affected, 1 warning (0.075 sec)

```
+-------------+--------------+
| LAST_NAME | FIRST_NAME |
+-------------+--------------+
| PATIL | SHREYAS |
| Smith | Jon |
| Allen | Kevin |
| Doyle | Jean |
| Dennis | Lynn |
| Baker | Leslie |
| Wark | Cynthia |
+-------------+--------------+
```

7 rows in set (0.002 sec)

6) Delete from Views

mysql> MariaDB [college]> DELETE FROM EMPNAMEVIEW WHERE LAST_NAME=";

Query OK, 1 row affected (0.173 sec)7 rows in set (0.002 sec)