Experiment No.4
Apply DML commands for the specified system
Date of Performance:
Date of Submission:

Aim :- Write insert query to insert rows for each table created of your database management system. Use update and delete commands to manipulate the inserted values in the table.

Objective :- To learn commands of Data Manipulation Language(DML) to insert, update or delete the values in the database system.

Theory:

Data Manipulation Language (DML) is a subset of SQL (Structured Query Language) used for managing data within relational database management systems (RDBMS). DML commands are used to perform operations such as inserting, updating, and deleting data from database tables.

1. Inserting Data

The INSERT statement is used to add new rows of data into a table. It specifies the table to insert data into and provides values or expressions for each column in the new row. If a column list is not specified, values must be provided for all columns in the table in the order they were defined.

Syntax:-

INSERT INTO table_name (column1, column2, column3) VALUES (value1, value2,

value3); 2. Updating Data

The UPDATE statement is used to modify existing data within a table. It allows you to change the values of one or more columns in one or more rows based on specified conditions. If no condition is specified, all rows in the table will be updated.

Syntax:

UPDATE table_name SET column1 = value1, column2 = value2 WHERE

condition; 3. Deleting Data

The DELETE statement is used to remove one or more rows from a table based on specified conditions. If no condition is specified, all rows in the table will be deleted.

Syntax:

DELETE FROM table_name WHERE condition;

Implementation:

1. INSERT:

```
INSERT INTO Team (team_name, location, team_id, found_in)
VALUES
    ('Blasters', 'Mumbai', 'MI', '2020-01-01'),
    ('Fixers', 'Chennai', 'CSK', '2019-03-15'),
    ('Goldens', 'Bengaluru', 'RCB', '2021-07-10');

INSERT INTO Player (player_id, player_name, bdate, age, runs_scored, wickets, player_role, player_salary, team_name)
VALUES
    ('P45', 'Rohit Sharma', '1995-05-20', 27, 500, 20, 'Batsman', 50000, 'Blasters'),
    ('P07', 'MS Dhoni', '1998-08-15', 24, 300, 15, 'Wicket-Keeper', 48000, 'Fixers'),
    ('P18', 'Virat Kohli', '1993-12-10', 28, 700, 10, 'All-Rounder', 55000, 'Goldens');

INSERT INTO `Match` (match_id, score, home_team, away_team, date)
VALUES
    ('M001', 250, 'Blasters', 'Fixers', '2024-04-15'),
    ('M002', 300, 'Fixers', 'Goldens', '2024-04-18'),
    ('M003', 200, 'Goldens', 'Blasters', '2024-04-20');

INSERT INTO Stadium (stadium_id, name, location, capacity)
VALUES
    ('S001', 'Wankhede', 'Mumbai', 50000),
    ('S002', 'Stadium un Thala', 'Chennai', 60000),
    ('S003', 'Stad de EducatedSarr', 'Bengaluru', 70000);
```

	player_id	player_name	bdate	age	runs_scored	wickets	player_role	player_salary	team_name
Edit Copy Delete	P07	MS Dhoni	1998-08-15	24	300	15	Wicket-Keeper	48000	Fixers
Edit Copy Delete	P18	Virat Kohli	1993-12-10	28	700	10	All-Rounder	55000	Goldens
Edit Copy Delete	P45	Rohit Sharma	1995-05-20	27	500	20	Batsman	50000	Blasters

	match_id	score	home_team	away_team	date
Edit Copy Delete	M001	250	Blasters	Fixers	2024-04-15
Edit Copy Delete	M002	300	Fixers	Goldens	2024-04-18
Edit Copy Delete	M003	200	Goldens	Blasters	2024-04-20

2. UPDATE:

```
UPDATE Player SET player_name = 'Abhishek Sharma' WHERE player_id = 'P18';
```

	player_id	player_name	bdate	age	runs_scored	wickets	player_role	player_salary	team_name
Edit Copy Delete	P07	MS Dhoni	1998-08-15	24	300	15	Wicket-Keeper	48000	Fixers
Edit Copy Delete	P18	Abhishek Sharma	1993-12-10	28	700	10	All-Rounder	55000	Goldens
Edit Copy Delete	P45	Rohit Sharma	1995-05-20	27	500	20	Batsman	50000	Blasters

3. DELETE:

```
1 DELETE FROM `Match` WHERE match_id = 'M002';
```

	match_id	score	home_team	away_team	date
Edit Copy Delete	M001	250	Blasters	Fixers	2024-04-15
Edit Copy Delete	M003	200	Goldens	Blasters	2024-04-20

Conclusion:

1. Explain the role of database constraints in enforcing data integrity during DML operations.

   Database constraints play a crucial role in enforcing data integrity during DML (Data Manipulation Language) operations by imposing rules and conditions on the data stored in the database tables. These constraints ensure that the data conforms to certain standards and requirements, preventing the insertion, modification, or deletion of data that could compromise its integrity.
   Constraints such as primary key, foreign key, unique, and check constraints help maintain consistency, accuracy, and reliability in the database by preventing invalid or inconsistent data from being introduced or manipulated.

2. How do you update multiple columns in a table using a single UPDATE statement?

   To update multiple columns in a table using a single UPDATE statement, you specify the column names and their corresponding new values separated by commas within the SET clause of the UPDATE statement. For example:

   UPDATE table_name
   SET column1 = value1, column2 = value2, column3 = value3
   WHERE condition;

   This statement updates the values of column1, column2, and column3 in the specified table with the provided values, subject to the specified condition.