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 customer (Custermor_id, Cust_name, cu_address, phone_no, aadhar_no, DOB)
VALUES
(1, 'John Doe', '123 Main St', 1234567, 123456789, '1990-01-01' ),
(2, 'Jane Smith', '456 Elm St', 987654, 98765432, '1985-05-15'),
(3, 'Alice Johnson', '789 Oak St', 555123, 55512345, '2000-10-20'),
(4, 'Bob Brown', '321 Pine St', 999888, 99988877, '1978-12-30'),
(5, 'Emily Wilson', '654 Birch St', 11122, 11122233, '1995-08-25');

INSERT INTO Hotel (Hotel_id, Hotel_name, Hotel_address, hotel_phone_no)
VALUES
(1, 'Sunset Inn', '123 Main St', 1234567),
(2, 'Golden Sands Resort', '456 Elm St', 9876543),
(3, 'Mountain View Lodge', '789 Oak St', 5551234),
(4, 'Seaside Retreat', '321 Pine St', 9998887),
(5, 'Riverside Hotel', '654 Birch St', 1112223);

INSERT INTO payement (payement_id, amount, payment_type)
VALUES
(1, 500, 'Credit Card'),
(2, 750, 'Debit Card'),
(3, 1000, 'Cash'),
(4, 300, 'Online Transfer'),
(5, 900, 'Cheque');

INSERT INTO room (room_id, room_type, no_of_accomodations, room_no)
VALUES
(1, 'Standard', 'Single', 101),
(2, 'Deluxe', 'Double', 202),
(3, 'Suite', 'Triple', 303),
(4, 'Standard', 'Single', 102),
(5, 'Deluxe', 'Double', 203);
```

Result Grid | Filter Rows: | Edit:

Hotel_id	Hotel_name	Hotel_address	hotel_phone_no
1	Sunset Inn	123 Main St	1234567
2	Golden Sands Resort	456 Elm St	9876543
3	Mountain View Lodge	789 Oak St	5551234
4	Seaside Retreat	321 Pine St	9998887
5	Riverside Hotel	654 Birch St	1112223
NULL	NULL	NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Import:

Custermor_id	Cust_name	cu_address	phone_no	aadhar_no	DOB	room_id
1	John Doe	123 Main St	1234567	123456789	1990-01-01	NULL
2	Jane Smith	456 Elm St	987654	98765432	1985-05-15	NULL
3	Alice Johnson	789 Oak St	555123	55512345	2000-10-20	NULL
4	Bob Brown	321 Pine St	999888	99988877	1978-12-30	NULL
5	Emily Wilson	654 Birch St	11122	11122233	1995-08-25	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL

2. UPDATE:

```
UPDATE room
SET room_type = 'Superior', no_of_accomodations = 'Double'
WHERE room_id = 1;
```

3. DELETE:

```
DELETE FROM room
WHERE room_id = 5;
```

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.