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:

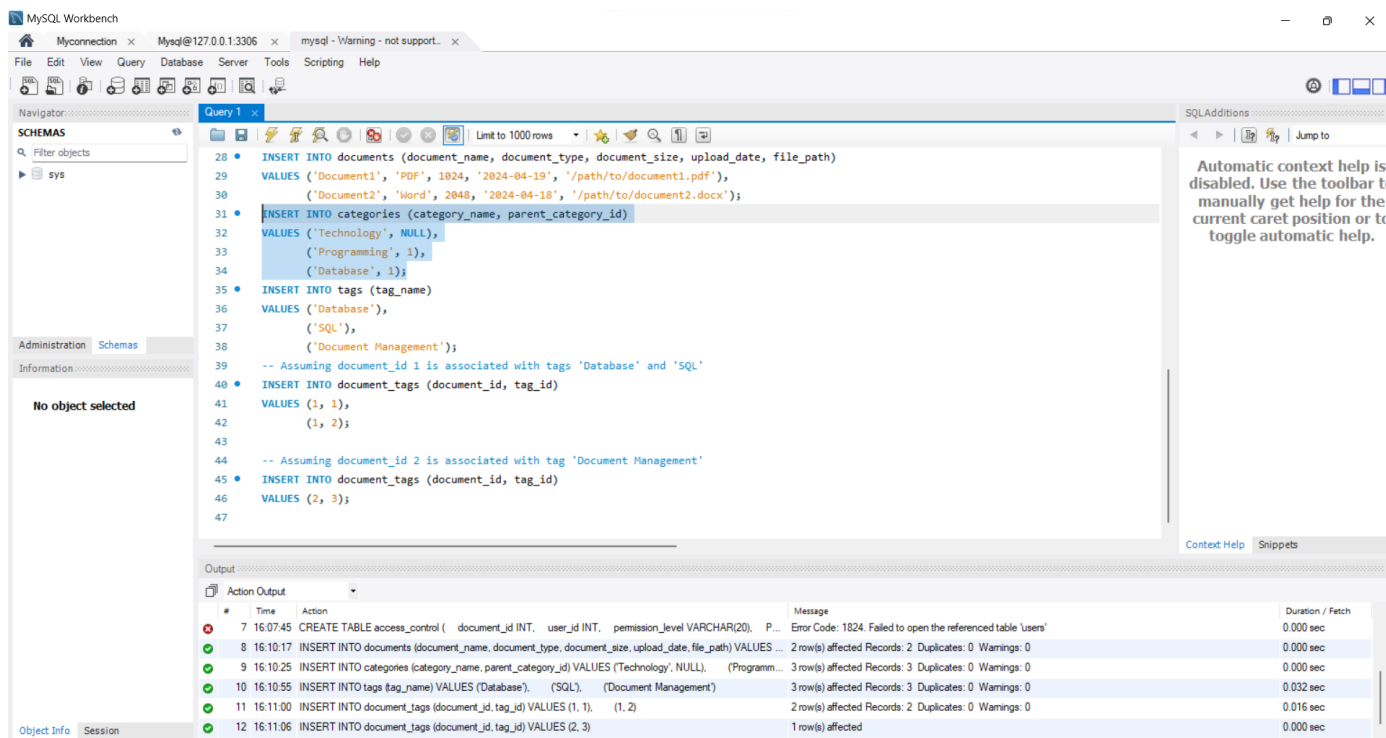UPDATE table_name SET column1 = value1, column2 = value2 WHERE condition;

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:

Conclusion:

1. Explain the role of database constraints in enforcing data integrity during DML operations.
2. How do you update multiple columns in a table using a single UPDATE statement?

In conclusion, database constraints play a vital role in ensuring data integrity during Data Manipulation Language (DML) operations. Constraints such as primary key, foreign key, unique, check, and not null constraints define rules and conditions that data must adhere to, preventing the insertion, modification, or deletion of data that would violate these rules. By enforcing constraints, databases maintain the accuracy, consistency, and reliability of the data, thus preserving its integrity.

Furthermore, when updating multiple columns in a table using a single UPDATE statement, you can specify each column and its new value separated by commas. For example:

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

This statement updates the specified columns with their respective new values in the specified table, based on the provided condition. Updating multiple columns in this manner can help streamline database operations and improve efficiency.