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ADT23SOCB1509

Assignment-4

**Demonstration of DML (Data Manipulation Language) Commands in SQL**

DML commands are used to **insert, update, delete, and retrieve** data from the database.

**1) INSERT Command**

Used to **add new records** into a table.

**Example: Inserting records into the Book table**

INSERT INTO Book (Book\_ID, Title, Author, Publisher, Year\_Published)

VALUES (1, 'The Great Gatsby', 'F. Scott Fitzgerald', 'Scribner', 1925);

INSERT INTO Book (Book\_ID, Title, Author, Publisher, Year\_Published)

VALUES (2, 'To Kill a Mockingbird', 'Harper Lee', 'J.B. Lippincott & Co.', 1960);

📌 **Explanation:** This inserts two books into the Book table.

**Example: Inserting records into the Member table**

INSERT INTO Member (Member\_ID, Name, Membership\_Date, Address, Email)

VALUES (101, 'John Doe', '2024-01-15', '123 Elm Street', 'john.doe@email.com');

📌 **Explanation:** This adds a new library member.

**2) UPDATE Command**

Used to **modify existing records** in a table.

**Example: Updating the publisher of a book**

UPDATE Book

SET Publisher = 'Penguin Classics'

WHERE Book\_ID = 1;

📌 **Explanation:** Changes the publisher of the book with **Book\_ID = 1**.

**Example: Updating the address of a member**

UPDATE Member

SET Address = '456 Oak Avenue'

WHERE Member\_ID = 101;

📌 **Explanation:** Updates the **address** for the member with **Member\_ID = 101**.

**3) DELETE Command**

Used to **remove records** from a table.

**Example: Deleting a book from the Book table**

DELETE FROM Book WHERE Book\_ID = 2;

📌 **Explanation:** Deletes the book with **Book\_ID = 2** from the database.

**Example: Deleting a member from the Member table**

DELETE FROM Member WHERE Member\_ID = 101;

📌 **Explanation:** Removes the member with **Member\_ID = 101**.

**4) SELECT Command**

Used to **retrieve data** from a table.

**Example: Selecting all books from the Book table**

SELECT \* FROM Book;

📌 **Explanation:** Displays all records from the **Book** table.

**Example: Selecting specific columns from Member table**

SELECT Name, Membership\_Date FROM Member;

📌 **Explanation:** Retrieves only **Name** and **Membership\_Date** of all members.

**Example: Selecting books published after 1950**

SELECT Title, Author FROM Book WHERE Year\_Published > 1950;

**Summary of SQL DML Commands:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Command | Purpose | |  | | --- | |  |  |  | | --- | | **Example** | |
| INSERT | Adds new data to a table | INSERT INTO Book (Book\_ID, Title) VALUES (1, '1984'); |
| UPDATE | Modifies existing records | UPDATE Book SET Author = 'Orwell' WHERE Book\_ID = 1; |
| DELETE | Removes data from a table | DELETE FROM Book WHERE Book\_ID = 2; |
| SELECT | Retrieves data from a table | SELECT \* FROM Book; |