Data Manipulation Language (DML)

If the table in the database requires any data to be inserted, updated or deleted then this is done by using DML. 3 SQL commands used are – INSERT, UPDATE, DELETE

INSERT Command –

Modify your data.

Syntax –

INSERT INTO table\_name (col1, col2, col3, …)

VALUES (val1, val2, val3, …)

Rule – Match the number of columns and values.

Example –

*‘INSERT INTO customers (id, first\_name, country, score)*

*VALUES*

*(1, 'Anna', 'USA', 24),*

*(2, 'Sam', NULL, 100)’*

INSERT using SELECT –

Suppose we want to enter new data from the source table without manually writing the query and values. This can be done by writing query for the source table and using the result of that to insert it into the new table.

Example (Steps and data types) –

*Customer Table*

*‘CREATE TABLE customers (*

*id INT NOT NULL,*

*first\_name VARCHAR(50) NOT NULL,*

*country VARCHAR(15),*

*score INT NOT NULL,*

*CONSTRAINT pk\_persons PRIMARY KEY (id)*

*)’*

*Person Table*

*‘CREATE TABLE persons (*

*id INT NOT NULL,*

*person\_name VARCHAR(50) NOT NULL,*

*birth\_date DATE,*

*phone VARCHAR(15) NOT NULL,*

*CONSTRAINT pk\_customers PRIMARY KEY (id)*

*)’*

*Customer data*

*‘SELECT id, first\_name, NULL, 'Unknown'*

*FROM customers’*

*Inserting the data into Persons*

*‘INSERT INTO persons (id, person\_name, birth\_date, phone)*

*SELECT id, first\_name, NULL, 'Unknown'*

*FROM customers’*

UPDATE Command –

To change the content of already existing row we use UPDATE.

Syntax –

UPDATE table\_name

SET col1 = val1,

Col2 = val2

WHERE condition

Rule – Always use WHERE to avoid updating all rows unintentionally.

Example –

*‘UPDATE customers*

*SET country = 'USA',*

*score = 0*

*WHERE id = 1’*

DELETE Command –

Remove rows from the table

Syntax –

DELETE FROM table\_name

WHERE Condition

Example –

*‘DELETE FROM customers*

*WHERE id < 2’*

To delete all the data from the table use TRUNCATE.

Syntax –

TRUNCATE TABLE table\_name