

## **DATABASE LAB- BSITF23**

For this lab, focus on understanding the INSERT, DELETE, and UPDATE commands in SQL. You do not need to run these commands; instead, practice writing them on paper based on the basic information provided. Additionally, explore these commands further through self-study to enhance your understanding. And then write the queries for the given statement at the end.

### **1. INSERT QUERY:**

The **INSERT** query in SQL is used to add new rows (records) to a table. It allows you to specify which columns of a table you want to insert data into and what values you want to provide.

#### **BASIC SYNTAX:**

```
INSERT INTO table_name (column1, column2, column3, ...)
VALUES (value1, value2, value3, ...);
```

#### **EXAMPLE:**

```
INSERT INTO Employees (FirstName, LastName)
VALUES ('John', 'Doe');
```

### **2. UPDATE QUERY:**

The **UPDATE** query in SQL is used to modify existing records in a table. It allows you to update one or more columns for one or multiple rows, based on a condition.

#### **BASIC SYNTAX:**

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

#### **EXAMPLE:**

```
UPDATE Employees
SET Department = 'IT'
WHERE EmployeeID = 101;
```

### 3. **DELETE QUERY:**

The **DELETE** query in SQL is used to remove rows from a table. You can delete specific rows by specifying a condition, or delete all rows in the table (with or without retaining the structure).

#### **BASIC SYNTAX:**

```
DELETE FROM table_name  
WHERE condition;
```

#### **EXAMPLE:**

```
DELETE FROM Employees  
WHERE EmployeeID = 101;
```

### **INSERT PROBLEM STATEMENTS:**

1. Add a new student named "John Doe" with StudentID = 1, Marks = 75, and Grade = 'B' into the Students table.
2. Insert a new record into the Employees table with the following details:  
EmployeeID = 101, Name = 'Alice', Department = 'HR', and Salary = 50000.
3. Add a new product into the Products table with ProductID = 10, Name = 'Laptop', Price = 600, and Stock = 50.
4. Insert a record into the Books table with BookID = 5, Title = 'SQL Basics', Author = 'Areeba Chaudhry', and Price = 25.
5. Add a new order into the Orders table with OrderID = 2001, CustomerName = 'Sara Ali', and OrderDate = '2024-11-01'.

### **UPDATE PROBLEM STATEMENTS:**

6. Update the Marks of the student with StudentID = 1 in the Students table to 85.
7. Change the Salary of the employee with EmployeeID = 102 in the Employees table to 55000.

8. Increase the Price of all products in the Products table by 10%.
9. Change the Grade of all students in the Students table with Marks greater than 90 to 'A'.
10. Update the Stock of the product with ProductID = 15 in the Products table to 100.

**DELETE PROBLEM STATEMENTS:**

11. Delete the student from the Students table where StudentID = 3.
12. Remove the employee from the Employees table who belongs to the Department = 'Finance'.
13. Delete all records from the Products table where Stock is less than 10.
14. Remove the order from the Orders table where OrderID = 2005.
15. Delete all books from the Books table where the Author is 'Unknown'.