**DBMS Practical No: 8**

**# Write a program to implement MYSQL/Oracle database**

**connectivity with any front-end language to implement**

**Database navigation operations (add, delete, edit etc)**

**Step 1: Set Up Your Environment**

1. Database Setup: Make sure you have MySQL or Oracle Database installed and running.
2. Front-End Language: Choose a programming language for your front-end (e.g., Python, Java, PHP).
3. Database Driver: Install the necessary driver or library for connecting to your database. For MySQL, you can use mysql-connector (Python), or mysql-connector-java (Java). For Oracle, you can use cx\_Oracle (Python) or ojdbc (Java).

**Step 2: Create a Database**

If you don't have a database, create one in your MySQL or Oracle server. Let's call it "mydb."

**Step 3: Connect to the Database**

Establish a connection to your database using your chosen programming language. Here's an example in Python using the mysql-connector library:

**import mysql.connector**

**connection = mysql.connector.connect(**

**host="localhost",**

**user="your\_username",**

**password="your\_password",**

**database="mydb"**

**)**

**Step 4: Perform Navigation Operations**

**4.1. Adding Records:**

To add a new record to a table, you need a cursor to execute SQL queries:

**cursor = connection.cursor()**

**sql\_insert = "INSERT INTO students (name, age) VALUES (%s, %s)"**

**values = ("John Doe", 25)**

**cursor.execute(sql\_insert, values)**

**connection.commit()**

**cursor.close()**

**4.2. Deleting Records:**

To delete a record, write a SQL delete statement

**cursor = connection.cursor()**

**sql\_delete = "DELETE FROM students WHERE id = %s"**

**record\_id = 1**

**cursor.execute(sql\_delete, (record\_id,))**

**connection.commit()**

**cursor.close()**

**4.3. Editing Records:**

To update a record, use an SQL update statement:

**cursor = connection.cursor()**

**sql\_update = "UPDATE students SET age = %s WHERE id = %s"**

**new\_age = 26**

**record\_id = 1**

**cursor.execute(sql\_update, (new\_age, record\_id))**

**connection.commit()**

**cursor.close()**

**Step 5: Close the Connection**

Close the database connection when done:

**connection.close()**

**Step 6: Error Handling**

Handle errors with try and except blocks to ensure your application doesn't crash when something goes wrong.