Experiment no 04

4A) Insert data

Code:

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;

public class InsertStaticMySQL {
    public static void main(String args[]) {
        Statement st = null;
        Connection connection = null;
        try {
            // Load MySQL JDBC Driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // MySQL Database Connection Details
            String url = "jdbc:mysql://localhost:3306/student_database"; // Replace with your
database name
            String username = "root";  // Replace with your MySQL username
            String password = "Sarban@123"; // Replace with your MySQL password

            // Establish Connection
            connection = DriverManager.getConnection(url, username, password);

            if (connection != null)
                System.out.println("✅ Connection established successfully");

            st = connection.createStatement();

            // Insert Query
            String qry = "INSERT INTO Student VALUES (104, 'Atharva Agrawal', 'Dhule')";

            int count = st.executeUpdate(qry);

            System.out.println(count + " ✅ Record inserted successfully");
        } catch (Exception e) {
            e.printStackTrace();
        } finally {
            try {
                if (st != null)
                    st.close();
                if (connection != null)
                    connection.close();
            } catch (SQLException e) {
```

```
            e.printStackTrace();
        }
    }
  }
}
```

Database:

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| abdul              |
| information_schema |
| lab_6              |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
6 rows in set (0.00 sec)

mysql> create database student_database;
Query OK, 1 row affected (0.06 sec)

mysql> use student_database;
Database changed

mysql> CREATE TABLE Student (
    ->     id INT PRIMARY KEY,
    ->     name VARCHAR(50),
    ->     city VARCHAR(50)
    -> );
Query OK, 0 rows affected (0.10 sec)
```

Commands To Run:

```
PS D:\College_AJP\Experments> javac -cp ".\mysql-connector-java-9.2.0.jar"
InsertStaticMySQL.java
>>

PS D:\College_AJP\Experments> java -cp ".;mysql-connector-j-9.2.0.jar" InsertStaticMySQL
>>
```

Output:

```
? Connection established successfully
```

1 ? Record inserted successfully
PS D:\College_AJP\Experments>

Database Output:

```
mysql> SELECT * FROM Student;
+-----+----------------+-------+
| id  | name           | city  |
+-----+----------------+-------+
| 104 | Atharva Agrawal | Dhule |
+-----+----------------+-------+
1 row in set (0.02 sec)

mysql>
```

4B) Receive Data
Code:

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;

public class SelectMySQL {
    public static void main(String args[]) {
        Connection connection = null;
        Statement st = null;
        ResultSet rs = null;

        try {
            // Step 1: Load MySQL JDBC Driver
            System.out.println("Step 1: Loading MySQL JDBC Driver...");
            Class.forName("com.mysql.cj.jdbc.Driver");
            System.out.println("✅ Driver loaded successfully");

            // Step 2: Establish Connection
            String url = "jdbc:mysql://localhost:3306/student_database"; // Replace with your DB
name
            String username = "root";  // Replace with your MySQL username
            String password = "Sarban@123";  // Replace with your MySQL password
```

```
            System.out.println("Step 2: Establishing Connection...");
            connection = DriverManager.getConnection(url, username, password);

            if (connection != null) {
                System.out.println("✅ Connection Established Successfully");
            } else {
                System.out.println("❌ Connection Failed!");
                return;
            }

            // Step 3: Create Statement
            System.out.println("Step 3: Creating Statement...");
            st = connection.createStatement();

            // Step 4: Execute Query
            System.out.println("Step 4: Executing Query...");
            String qry = "SELECT * FROM Student";
            rs = st.executeQuery(qry);

            // Step 5: Display Results
            System.out.println("Step 5: Displaying Data...");
            System.out.println("ID\tName\tCity");
            System.out.println("-------------------------");

            while (rs.next()) {
                int id = rs.getInt("id");
                String name = rs.getString("name");
                String city = rs.getString("city");
                System.out.println(id + "\t" + name + "\t" + city);
            }

        } catch (ClassNotFoundException e) {
            System.out.println("❌ JDBC Driver Not Found: " + e.getMessage());
        } catch (SQLException e) {
            System.out.println("❌ SQL Error: " + e.getMessage());
        } finally {
            try {
                if (rs != null) rs.close();
                if (st != null) st.close();
                if (connection != null) connection.close();
                System.out.println("✅ Resources Closed Successfully");
            } catch (SQLException e) {
                System.out.println("❌ Error Closing Resources: " + e.getMessage());
            }
        }
    }
}
```

Commands To Run :

```
PS D:\College_AJP\Experments> javac -cp ".;mysql-connector-j-9.2.0.jar" SelectMySQL.java
>>

PS D:\College_AJP\Experments> java -cp ".;mysql-connector-j-9.2.0.jar" SelectMySQL
>>
```

Output:

```
PS D:\College_AJP\Experments> java -cp ".;mysql-connector-j-9.2.0.jar" SelectMySQL
>>
Step 1: Loading MySQL JDBC Driver...
? Driver loaded successfully
Step 2: Establishing Connection...
? Connection Established Successfully
Step 3: Creating Statement...
Step 4: Executing Query...
Step 5: Displaying Data...
ID      Name    City
---------------------------
104     Atharva Agrawal Dhule
? Resources Closed Successfully
PS D:\College_AJP\Experments>
```