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SMARTBRIDGE EXTERNSHIP

Modern App Development Using Spring Boot

Week 3 Assignment

Q.) Implement Java Assignment for Java JDBC using Java

Using table from MQL workbench

CODE:

```
package practice;
import java.sql.*;
import java.util.Scanner;

public class Smartbridge_3 {
    public static void main(String[] args){
        try {
            // 1. Register the driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // 2. Connection
            Connection conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/beginner", "root",
"alens");
            Statement stmt = conn.createStatement();

            // 3. Select query - Display entire table
            System.out.println("---- Original Table ----");
            ResultSet selectResult = stmt.executeQuery("SELECT * FROM employee");
            displayResultSet(selectResult);

            // 4. Update query - Update a row
            String updateQuery = "UPDATE employee SET city = 'New York City' WHERE
emp_id = 3";
            int rowsUpdated = stmt.executeUpdate(updateQuery);
            System.out.println(rowsUpdated + " row(s) updated.");

            // 5. Select query - Display updated row
            System.out.println("---- Updated Row ----");
            ResultSet updatedRowResult = stmt.executeQuery("SELECT * FROM employee
WHERE emp_id = 1");
            displayResultSet(updatedRowResult);

            // 6. Delete query - Delete a row
            String deleteQuery = "DELETE FROM employee WHERE emp_id = 2";
            int rowsDeleted = stmt.executeUpdate(deleteQuery);
            System.out.println(rowsDeleted + " row(s) deleted.");

            // 7. Insert query - Insert a new row
            Scanner scanner = new Scanner(System.in);
            System.out.println("Enter the details for the new employee:");
            System.out.print("emp_id (Integer): ");
            int empId = scanner.nextInt();
```

```

        scanner.nextLine(); // Consume the newline character
        System.out.print("emp_name (String): ");
        String empName = scanner.nextLine();
        System.out.print("address (String): ");
        String address = scanner.nextLine();
        System.out.print("city (String): ");
        String city = scanner.nextLine();
        System.out.print("postal_code (Integer): ");
        int postalCode = scanner.nextInt();
        scanner.nextLine(); // Consume the newline character
        System.out.print("country (String): ");
        String country = scanner.nextLine();

        String insertQuery = "INSERT INTO employee (emp_id, emp_name, address,
city, postal_code, country) VALUES (?, ?, ?, ?, ?, ?)";
        PreparedStatement insertStmt = conn.prepareStatement(insertQuery);
        insertStmt.setInt(1, empId);
        insertStmt.setString(2, empName);
        insertStmt.setString(3, address);
        insertStmt.setString(4, city);
        insertStmt.setInt(5, postalCode);
        insertStmt.setString(6, country);
        int rowsInserted = insertStmt.executeUpdate();
        System.out.println(rowsInserted + " row(s) inserted.");

        // 8. Select query - Display updated table
        System.out.println("---- Updated Table ----");
        ResultSet updatedTableResult = stmt.executeQuery("SELECT * FROM
employee");
        displayResultSet(updatedTableResult);

        // 9. Close the resources
        conn.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}

// Helper method to display the ResultSet as a table
private static void displayResultSet(ResultSet rs) throws SQLException {
    ResultSetMetaData metaData = rs.getMetaData();
    int columnCount = metaData.getColumnCount();

    // Display header names
    for (int i = 1; i <= columnCount; i++) {
        String columnName = metaData.getColumnName(i);
        System.out.printf("%-15s", columnName);
    }
    System.out.println();

    // Display data rows
    while (rs.next()) {
        for (int i = 1; i <= columnCount; i++) {
            String columnValue = rs.getString(i);
            if (i == 3 || i == 4) {
                System.out.printf("%-25s", columnValue);
            } else {
                System.out.printf("%-15s", columnValue);
            }
        }
    }
}

```

