## JDBC Assignment

```
package employeemanagement;
import java.sql.*;
import java.util.Scanner;
public class Employeemanagement {
private static final String JDBC_URL = "jdbc:mysql://localhost:3306/employeemanagement";
 private static final String JDBC_USER = "root";
 private static final String JDBC_PASSWORD = "root";
public static void main(String[] args) {
 try (Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/employeemanagement","root",
"sehan")) {
   createTableIfNotExists(connection);
      Scanner scanner = new Scanner(System.in);
      while (true) {
        System.out.println("Employee Management System");
        System.out.println("1. Add Employee");
        System.out.println("2. Update Employee");
        System.out.println("3. Delete Employee");
        System.out.println("4. Display All Employees");
        System.out.println("5. Exit");
        System.out.print("Enter your choice: ");
        int choice = scanner.nextInt();
        scanner.nextLine(); // Consume newline
        switch (choice) {
          case 1:
            addEmployee(connection, scanner);
```

```
break;
       case 2:
         updateEmployee(connection, scanner);
         break;
       case 3:
         deleteEmployee(connection, scanner);
         break;
       case 4:
         displayAllEmployees(connection);
         break;
       case 5:
         System.out.println("Exiting...");
         return;
       default:
         System.out.println("Invalid choice. Please try again.");
     }
   }
 } catch (SQLException e) {
   e.printStackTrace();
 }
}
private static void createTableIfNotExists(Connection connection) throws SQLException {
 String createTableSQL = "CREATE TABLE IF NOT EXISTS employees (" +
     "id INT PRIMARY KEY AUTO_INCREMENT," +
     "name VARCHAR(255)," +
     "department VARCHAR(255)," +
     "salary DOUBLE)";
 try (Statement statement = connection.createStatement()) {
   statement.execute(createTableSQL);
 }
```

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}
  private static void addEmployee(Connection connection, Scanner scanner) throws
SQLException {
    System.out.print("Enter employee name: ");
    String name = scanner.nextLine();
    System.out.print("Enter department: ");
    String department = scanner.nextLine();
    System.out.print("Enter salary: ");
    double salary = scanner.nextDouble();
    scanner.nextLine(); // Consume newline
    String insertSQL = "INSERT INTO employees (name, department, salary) VALUES (?, ?, ?)";
    try (PreparedStatement preparedStatement = connection.prepareStatement(insertSQL)) {
      preparedStatement.setString(1, name);
      preparedStatement.setString(2, department);
      preparedStatement.setDouble(3, salary);
      int rowsAffected = preparedStatement.executeUpdate();
      if (rowsAffected > 0) {
        System.out.println("Employee added successfully.");
      } else {
        System.out.println("Employee could not be added.");
      }
  private static void updateEmployee(Connection connection, Scanner scanner) throws
SQLException {
    System.out.print("Enter employee ID to update: ");
```

```
int id = scanner.nextInt();
    scanner.nextLine(); // Consume newline
    System.out.print("Enter new name (or press Enter to skip): ");
    String name = scanner.nextLine();
System.out.print("Enter new department (or press Enter to skip): ");
    String department = scanner.nextLine();
    System.out.print("Enter new salary (or press Enter to skip): ");
    String salaryStr = scanner.nextLine();
    StringBuilder updateSQL = new StringBuilder("UPDATE employees SET");
    if (!name.isEmpty()) {
      updateSQL.append("name = ?, ");
    }
    if (!department.isEmpty()) {
      updateSQL.append("department = ?, ");
    }
    if (!salaryStr.isEmpty()) {
      updateSQL.append("salary = ?, ");
    updateSQL.delete(updateSQL.length() - 2, updateSQL.length()); // Remove trailing comma
and space
    updateSQL.append("WHERE id = ?");
    try (PreparedStatement preparedStatement =
connection.prepareStatement(updateSQL.toString())) {
      int parameterIndex = 1;
      if (!name.isEmpty()) {
        preparedStatement.setString(parameterIndex++, name);
      }
      if (!department.isEmpty()) {
```

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preparedStatement.setString(parameterIndex++, department);
      }
      if (!salaryStr.isEmpty()) {
        double salary = Double.parseDouble(salaryStr);
        preparedStatement.setDouble(parameterIndex++, salary);
      }
      preparedStatement.setInt(parameterIndex, id);
      int rowsAffected = preparedStatement.executeUpdate();
      if (rowsAffected > 0) {
        System.out.println("Employee updated successfully.");
      } else {
        System.out.println("Employee with ID " + id + " not found.");
      }
    }
  }
  private static void deleteEmployee(Connection connection, Scanner scanner) throws
SQLException {
    System.out.print("Enter employee ID to delete: ");
    int id = scanner.nextInt();
    String deleteSQL = "DELETE FROM employees WHERE id = ?";
    try (PreparedStatement preparedStatement = connection.prepareStatement(deleteSQL)) {
      preparedStatement.setInt(1, id);
      int rowsAffected = preparedStatement.executeUpdate();
      if (rowsAffected > 0) {
        System.out.println("Employee deleted successfully.");
      } else {
        System.out.println("Employee with ID " + id + " not found.");
```

```
}
   }
 }
  private static void displayAllEmployees(Connection connection) throws SQLException {
   String selectSQL = "SELECT * FROM employees";
   try (Statement statement = connection.createStatement();
      ResultSet resultSet = statement.executeQuery(selectSQL)) {
     System.out.println("Employee List:");
     System.out.println("ID\tName\tDepartment\tSalary");
     while (resultSet.next()) {
       int id = resultSet.getInt("id");
       String name = resultSet.getString("name");
       String department = resultSet.getString("department");
       double salary = resultSet.getDouble("salary");
       System.out.println(id + "\t" + name + "\t" + department + "\t" + salary);
     }
   }
 }
}
```

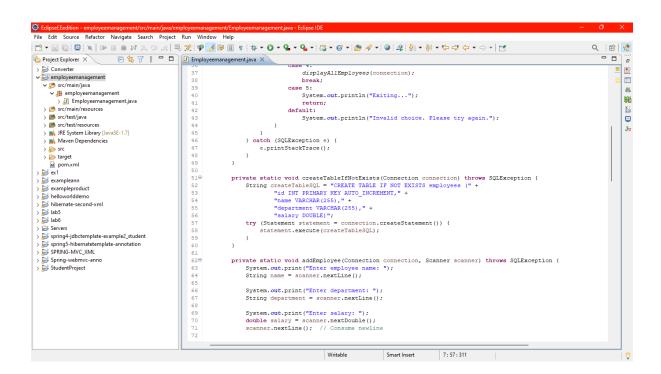
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while (true) {
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    System.out.println("1. Ndd Employee");
    System.out.println("2. Update Employee");
    System.out.println("3. Delete Employee");
    System.out.println("4. Display All Employees");
    System.out.println("5. Exit");
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    addEmployee(connection, scanner);
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    deleteEmployee(connection, scanner);
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try (PreparedStatement preparedStatement = connection.prepareStatement(insertSQL)) {
    preparedStatement.setString(1, name);
    preparedStatement.setString(2, department);
    preparedStatement.setDouble(3, salary);

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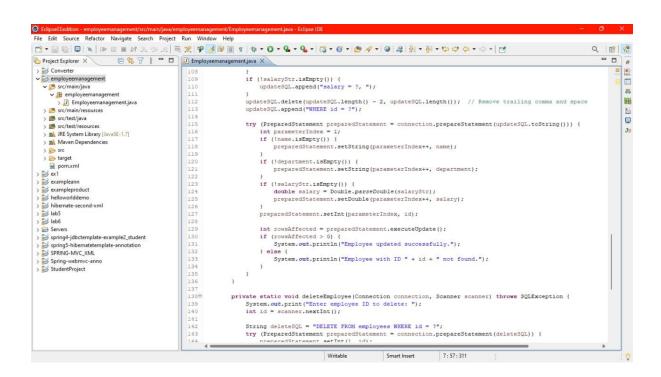
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    System.out.println("Employee added successfully.");
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                                                                                          private static void updateEmployee(Connection connection, Scanner scanner) throws SQLException {
   System.out.print("Enter employee ID to update: ");
   int id = scanner.nextInt();
   scanner.nextLine(); // Consume newline
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String salaryStr = scanner.nextLine();
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                                                                                                  if (!name.isEmpty()) {
    updateSQL.append("name = ?, ");
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if (rowsAffected > 0) {
    System.out.println("Employee deleted successfully.");
} else {
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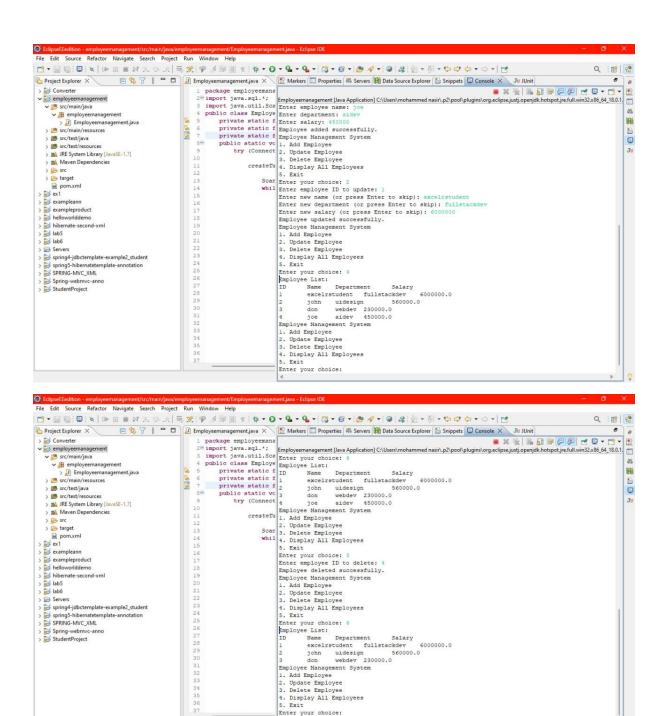
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   String selectSQL = "SELECT * FROM employees";
   try (Statement statement = connection.createStatement();
    ResultSet resultSet = statement.executeQuery(selectSQL)) {
    System.out.println("Employee List");
   System.out.println("TolValmex\toPartment\tSalary");
   while (resultSet.nex()) {
      int id = resultSet.getInt("id");
      String name = resultSet.getString("name");
      String department = resultSet.getString("department");
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   }
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Enter your choice: 1
Enter employee name: joe
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Employee added successfully.
Employee Management System
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Enter your choice: