**HW to Chapters 13 “Connect Java Program to Database” (as in lectures)**

Non-programming Assignment

1) What is JDBC?

JDBC, which stands for Java Database Connectivity, is an API in Java for connecting and executing queries with databases. It's an integral part of JavaSE (Java Standard Edition). JDBC works with JDBC drivers, which are abstract interfaces allowing interaction with a wide range of databases. Essentially, it provides a set of classes and interfaces that can send SQL queries to databases, process the results, and handle any issues that arise.

For instance, if we have a MySQL database and I want to retrieve all users from the users table, I can use JDBC to execute a SELECT query and process the results.

2) How to connect your Java program to a database?

1.Include the JDBC library in the project.

2.Load the appropriate JDBC driver for my database.

3.Use the DriverManager class to establish a connection using a database URL, which includes the database server address, port, and database name, along with login credentials.

For example:

// 1. Include the JDBC library (typically done via build tools like Maven or Gradle).

// 2. Load the JDBC driver.

Class.forName("com.mysql.jdbc.Driver");

// 3. Connect to the database.

String url = "jdbc:mysql://localhost:3306/mydatabase"; // Your database URL.

String user = "username"; // Your database username.

String password = "password"; // Your database password.

Connection conn = DriverManager.getConnection(url, user, password);

// Use the connection to perform database operations.

This example uses MySQL as the database.

Replace "localhost:3306/mydatabase", "username", and "password" with actual database details.