INFO 5100 - Application Engineering & Dev

Homework to Chapter 13

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In the following pages, I will answer the questions in the Midterm Exam, providing detailed responses. Your feedback is greatly appreciated, and I am open to any additional guidance or expectations you may have for this assignment.

Non-Programming Assignment

1. What is JDBC?

Ans: JDBC stands for Java Database Connectivity. It is a Java-based API that provides a standard interface for connecting and interacting with relational databases from Java programs. JDBC enables Java applications to execute SQL queries, retrieve results, and perform database operations.

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

Ans: We connect Java program to the database with the help of API called JDBC (Java Database Connectivity).

We import the java sql package and use the instance of Connection class to make a connection to the database. Using the `getConnection()` method and passing the database url, username and password, we can connect with the database.

Further we use `createStatement()` method to write and Execute SQL queries through the Java program.

Following is a program to connect Java program to the database:

```java
package edu.neu.mgen;

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

public class HWtoCh13 {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/sys";
        String username = "root";
        String password = "admin123";
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection connection = DriverManager.getConnection(url, username,
password);

            Statement statement = connection.createStatement();

            ResultSet resultSet = statement.executeQuery(connection.nativeSQL(
                    "SELECT * FROM users"));
            while (resultSet.next()) {
                int userId = resultSet.getInt("user_id");
                String name = resultSet.getString("name");
                String email = resultSet.getString("email");
                String dateOfBirth = resultSet.getString("date_of_birth");

                System.out.println("User ID: " + userId);
                System.out.println("Name: " + name);
                System.out.println("Email: " + email);
                System.out.println("Date of Birth: " + dateOfBirth);
                System.out.println("-----------------------");
            }
            connection.close();

        } catch (Exception e) {
            System.out.println(e);
        }

    }
}
```