ASSIGNMENT

Submitted by,

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Introduction of DAO

The **Data Access Object (DAO)** pattern is a structural pattern that allows for the separation of low-level data accessing API or operations from high-level business services. It abstracts and encapsulates all access to the data source, providing a clean separation between data and business logic.

Benefits

1. **Separation of Concerns**
2. **Easier Unit Testing**
3. **Flexibility and Scalability**

Task 1

Create a registration module with database connectivity to store data in a database.

```java
package register;

import java.sql.*;
public class Register {

    private static final String URL = "jdbc:mysql://localhost:3306/registerlogin";
    private static final String USER = "root";
    private static final String PASSWORD = "";


    //create

    public static void register(String username, String password, String email){
        String query = "insert into register(username,password,email)values(?,?,?)";
        try(Connection conn = DriverManager.getConnection(URL,USER,PASSWORD);
            PreparedStatement ps = conn.prepareStatement(query)){
            ps.setString(1,username);
            ps.setString(2,password);
            ps.setString(3,email);

            ps.executeUpdate();

            System.out.println("Registration Success!");

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

public static void main(String[] args) {
    register("Lisy J", "2424@lisy","lisy@gmail.com");


}
```

Output

Desktop - C:\Users\ADIT\Desktop ×	MySQL Server Commands ×	register (run) ×

```
run:
Registration Success!
BUILD SUCCESSFUL (total time: 0 seconds)
```

Result : Program successfully completed.

Task 2

Create a login module with database connectivity to check authentication of user.

```java
//login
public static void login(String username, String password){
    String query = "SELECT * FROM register WHERE username=? AND password=?";

    try (Connection conn = DriverManager.getConnection(URL, USER, PASSWORD);
         PreparedStatement ps = conn.prepareStatement(query)) {
        ps.setString(1, username);
        ps.setString(2, password);
        ResultSet rs = ps.executeQuery();

        if(rs.next()) {
            // Valid credentials, create a session
            String uname = rs.getString("username");
            System.out.println("Hello "+uname+" Welcome to home page");

        } else {
            // Invalid credentials
            System.out.println("Invalid username or password.");

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

    }

}
    public static void main(String[] args) {

        login("Lisy J","2424@lisy");
    }
```
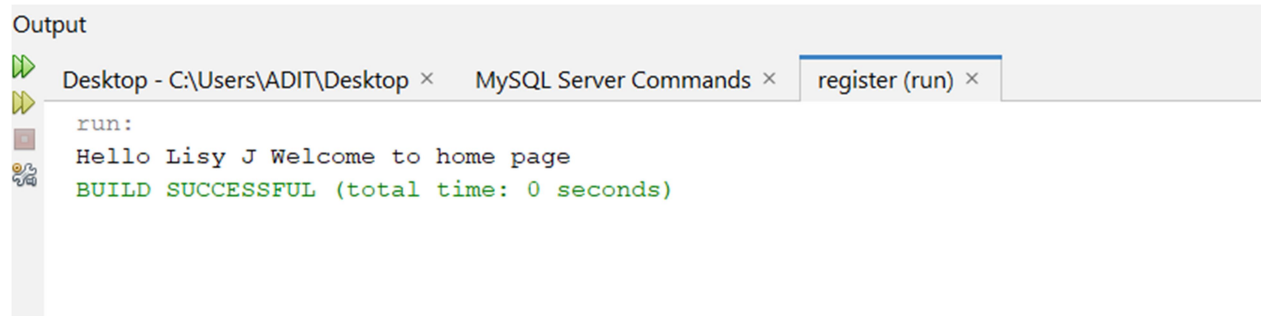
Output

```
Output
Desktop - C:\Users\ADIT\Desktop ×    MySQL Server Commands ×    register (run) ×
  run:
  Hello Lisy J Welcome to home page
  BUILD SUCCESSFUL (total time: 0 seconds)
```

Result : Program successfully completed.