R. CONCEICAO RODRIGUES COLLEGE OF ENGINEERIG
Department of Computer Engineering

Experiment 10- Based on JDBC

1. Course Details:

Academic Year	**2023 - 24**	**Estimated Time**	**Experiment No.10– 02 Hours**
Course & Semester	**S.E. (COMP) – Sem. III**	**Subject Name**	**Skill based lab Course-OOP with Java**
Module No.	**06**	**Chapter Title**	**GUI programming in Java**
Experiment Type	**Software Performance**	**Subject Code**	**CSL304**

Name of Student	Mark Lopes	**Roll No.**	9913
Date of Performance:	29/10/2023	**Date of Submission:**	29/10/2023
CO Mapping	**CSL304.5 Develop real world application using libraries/GUI, Database in Java**		

Timeline (2)	Preparedness (2)	Effort (3)	Result (3)	Total (10)

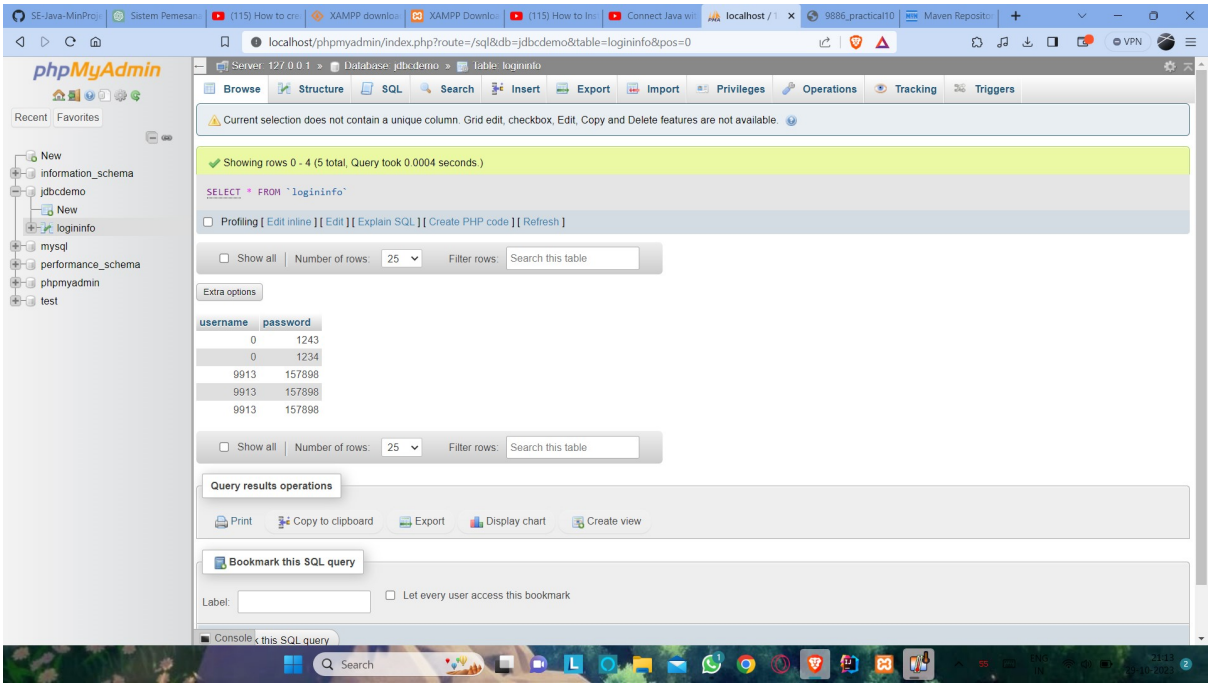
Problem statement:

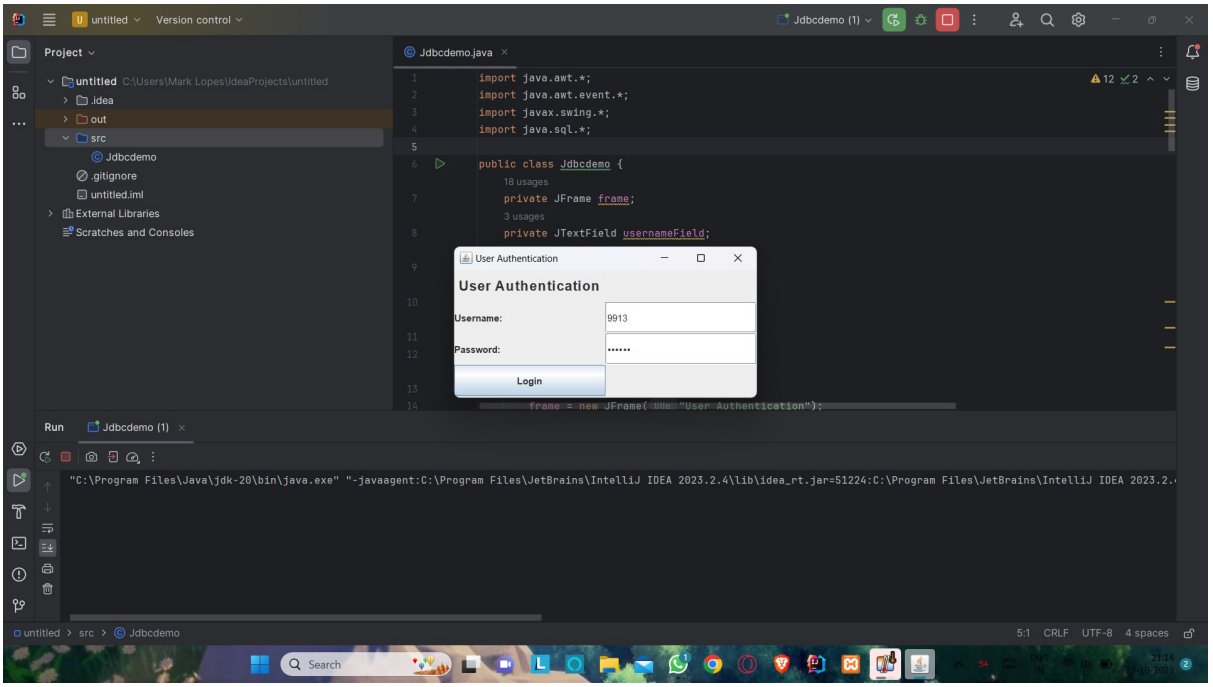
1) Design a UI that accepts Username and Password from user. The application should check if the user is a valid user by checking the records stored in **database**. Acceptance/Rejection of user should be shown by displaying appropriate message on the dialog box.

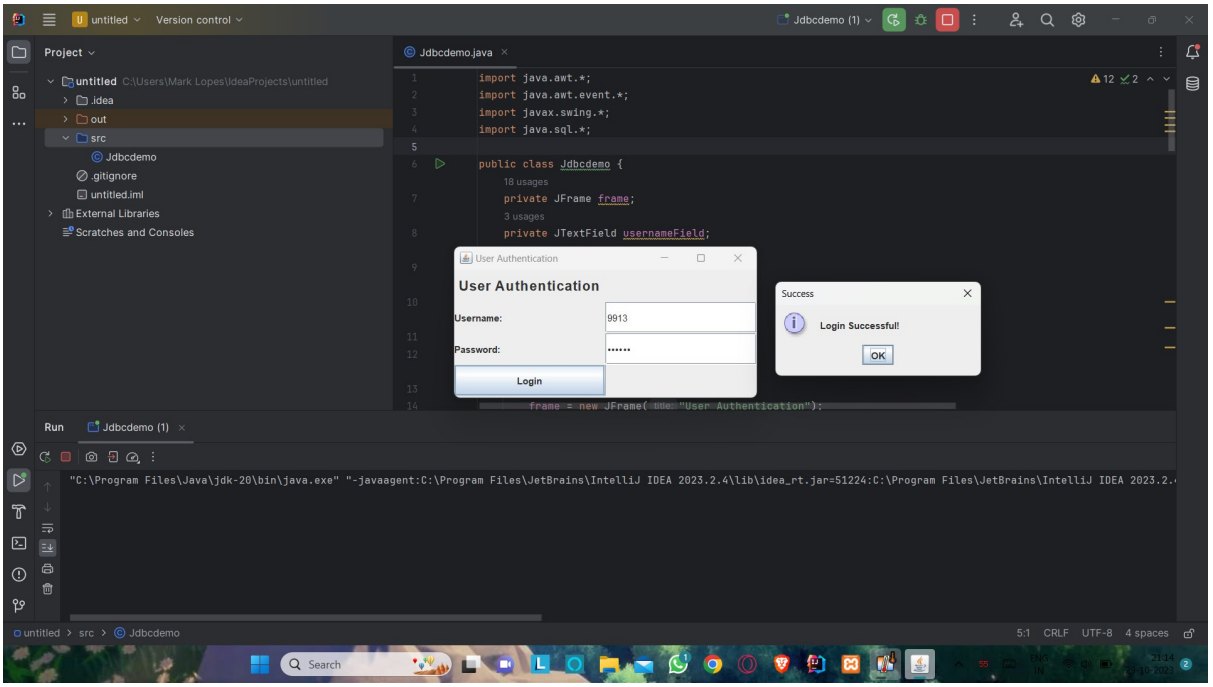
```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;

public class Jdbcdemo {
   private JFrame frame;
   private JTextField usernameField;
   private JPasswordField passwordField;
   private JButton loginButton;
   private Connection connection;

   public Jdbcdemo() {
```

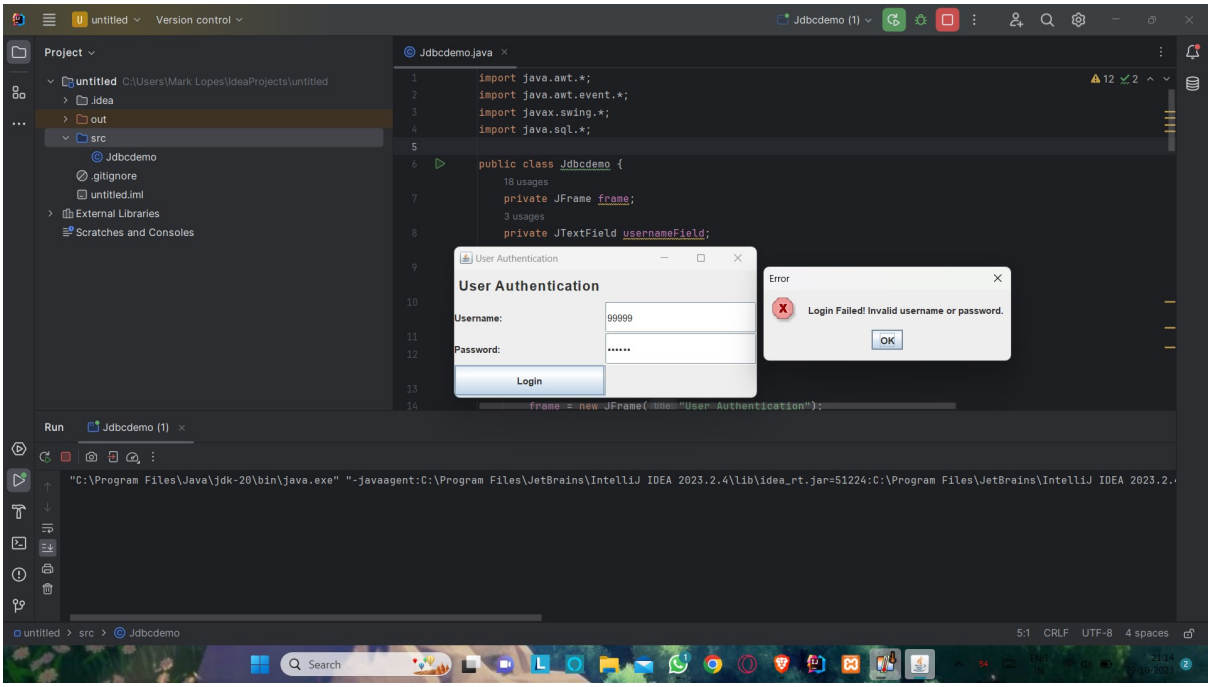
```
        frame = new JFrame("User Authentication");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setLayout(new GridLayout(4, 2));
        frame.setPreferredSize(new Dimension(400, 200));

        JLabel titleLabel = new JLabel("User Authentication");
        titleLabel.setFont(new Font("Arial", Font.BOLD, 18));
        titleLabel.setHorizontalAlignment(SwingConstants.CENTER);
        frame.add(titleLabel);
        frame.add(new JLabel(""));

        JLabel usernameLabel = new JLabel("Username:");
        frame.add(usernameLabel);
        usernameField = new JTextField();
        frame.add(usernameField);

        JLabel passwordLabel = new JLabel("Password:");
        frame.add(passwordLabel);
        passwordField = new JPasswordField();
        frame.add(passwordField);

        loginButton = new JButton("Login");
        frame.add(loginButton);
        frame.add(new JLabel(""));

        loginButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                String username = usernameField.getText();
                String password = new String(passwordField.getPassword());

                if (authenticateUser(username, password)) {
                    JOptionPane.showMessageDialog(frame, "Login Successful!",
"Success", JOptionPane.INFORMATION_MESSAGE);
                } else {
                    JOptionPane.showMessageDialog(frame, "Login Failed!
Invalid username or password.", "Error", JOptionPane.ERROR_MESSAGE);
                }
            }
        });

        frame.pack();
        frame.setLocationRelativeTo(null);
        frame.setVisible(true);

        // Initialize the database connection
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbcdemo", "root",
"");
        } catch (Exception ex) {
            ex.printStackTrace();
            JOptionPane.showMessageDialog(frame, "Error: Could not connect to
the database.", "Error", JOptionPane.ERROR_MESSAGE);
        }
    }

    private boolean authenticateUser(String username, String password) {
        try {
            PreparedStatement statement = connection.prepareStatement("SELECT
* FROM logininfo WHERE username = ? AND password = ?");
```

```
            statement.setString(1, username);
            statement.setString(2, password);
            ResultSet resultSet = statement.executeQuery();
            return resultSet.next();
        } catch (SQLException e) {
            e.printStackTrace();
        }
        return false;
    }

    public static void main(String[] args) {
        SwingUtilities.invokeLater(new Runnable() {
            public void run() {
                new Jdbcdemo();
            }
        });
    }
}
```




untitled
Version control
Jdbcdemo (1)
Project
untitled C:\Users\Mark Lopes\IdeaProjects\untitled
.idea
out
src
Jdbcdemo
.gitignore
untitled.iml
External Libraries
Scratches and Consoles
Jdbcdemo.java
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;
public class Jdbcdemo {
18 usages
private JFrame frame;
3 usages
private JTextField usernameField;
User Authentication
User Authentication
Username:
9913
Password:
Login
frame = new JFrame("User Authentication");
Run
Jdbcdemo (1)
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.4\lib\idea_rt.jar=51224:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.
untitled > src > Jdbcdemo
5:1 CRLF UTF-8 4 spaces
Search


untitled
Version control
Jdbcdemo (1)
Project
untitled C:\Users\Mark Lopes\IdeaProjects\untitled
.idea
out
src
Jdbcdemo
.gitignore
untitled.iml
External Libraries
Scratches and Consoles
Jdbcdemo.java
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;
public class Jdbcdemo {
18 usages
private JFrame frame;
3 usages
private JTextField usernameField;
User Authentication
User Authentication
Username:
9913
Password:
Login
Success
Login Successful!
OK
frame = new JFrame("User Authentication");
Run
Jdbcdemo (1)
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.4\lib\idea_rt.jar=51224:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.
untitled > src > Jdbcdemo
5:1 CRLF UTF-8 4 spaces
Search


untitled
Version control
Jdbcdemo (1)
Project
untitled C:\Users\Mark Lopes\IdeaProjects\untitled
.idea
out
src
Jdbcdemo
.gitignore
untitled.iml
External Libraries
Scratches and Consoles
Jdbcdemo.java
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;
public class Jdbcdemo {
18 usages
private JFrame frame;
3 usages
private JTextField usernameField;
User Authentication
User Authentication
Username:
99999
Password:
Login
Error
Login Failed! Invalid username or password.
OK
frame = new JFrame(title: "User Authentication");
Run
Jdbcdemo (1)
"C:\Program Files\Java\jdk-20\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.4\lib\idea_rt.jar=51224:C:\Program Files\JetBrains\IntelliJ IDEA 2023.2.
untitled
src
Jdbcdemo
5:1
CRLF
UTF-8
4 spaces
Search