Experiment 3

Design GUI for Registration and Log in using Swing

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Batch: ‘A’

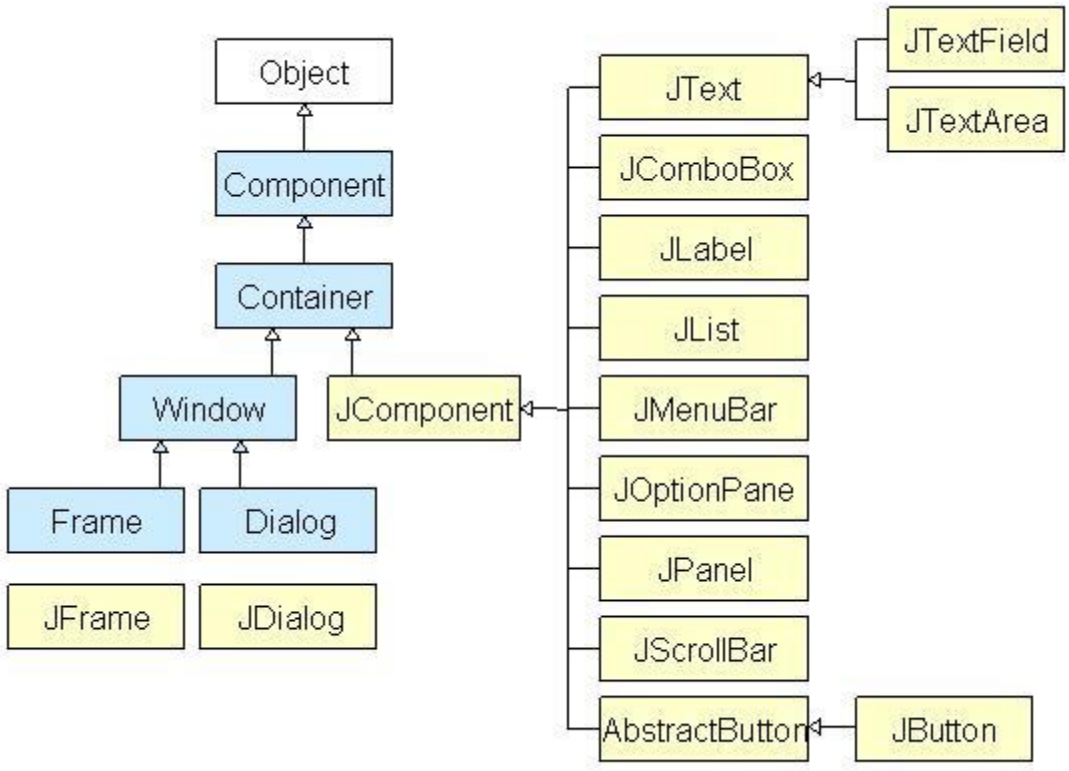
Aim: Design GUI for Registration and Log in using Swing

Theory:

Swing in Java is a Graphical User Interface (GUI) toolkit that includes the GUI components. Swing provides a rich set of widgets and packages to make sophisticated GUI components for Java applications. Swing is a part of Java Foundation Classes (JFC), which is an API for Java programs that provide GUI.

The Java Swing library is built on top of the Java Abstract Widget Toolkit (**AWT**), an older, platform dependent GUI toolkit. You can use the Java GUI programming components like button, textbox, etc. from the library and do not have to create the components from scratch.

Java Swing class Hierarchy Diagram



Code:

1) Registration form Design -

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

public class Form {

  public static void main(String arrgs[]) {
    JFrame f = new JFrame("employee details");
    JLabel l1 = new JLabel("name:");
    f.add(l1);
    JTextField t1 = new JTextField(30);
    f.add(t1);
    JLabel l2 = new JLabel("id:");
    f.add(l2);
    JTextField t2 = new JTextField(30);
    f.add(t2);
    JLabel l3 = new JLabel("password");
    f.add(l3);
    JPasswordField pwd = new JPasswordField(30);
    f.add(pwd);
    JLabel l4 = new JLabel("gender");
    f.add(l4);
    JRadioButton r1 = new JRadioButton("male");
    JRadioButton r2 = new JRadioButton("female");
    ButtonGroup bg = new ButtonGroup();
    bg.add(r1);
    bg.add(r2);
    f.add(r1);
    f.add(r2);
    f.setVisible(true);
    f.setSize(500, 500);
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    f.setLayout(new GridLayout(10, 2));
  }
}
```

2) Login form Design –

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class Login extends JFrame implements ActionListener{
    JPanel panel;
   JLabel user_label, password_label, message;
   JTextField userName_text;
   JPasswordField password_text;
   JButton submit, cancel;
   Login() {
      // Username Label
      user_label = new JLabel();
      user_label.setText("User Name :");
      userName_text = new JTextField(30);

      // Password Label
      password_label = new JLabel();
      password_label.setText("Password :");
      password_text = new JPasswordField(30);

      // Submit
      submit = new JButton("SUBMIT");
      panel = new JPanel(new GridLayout(3, 1));
      panel.add(user_label);
      panel.add(userName_text);
      panel.add(password_label);
      panel.add(password_text);

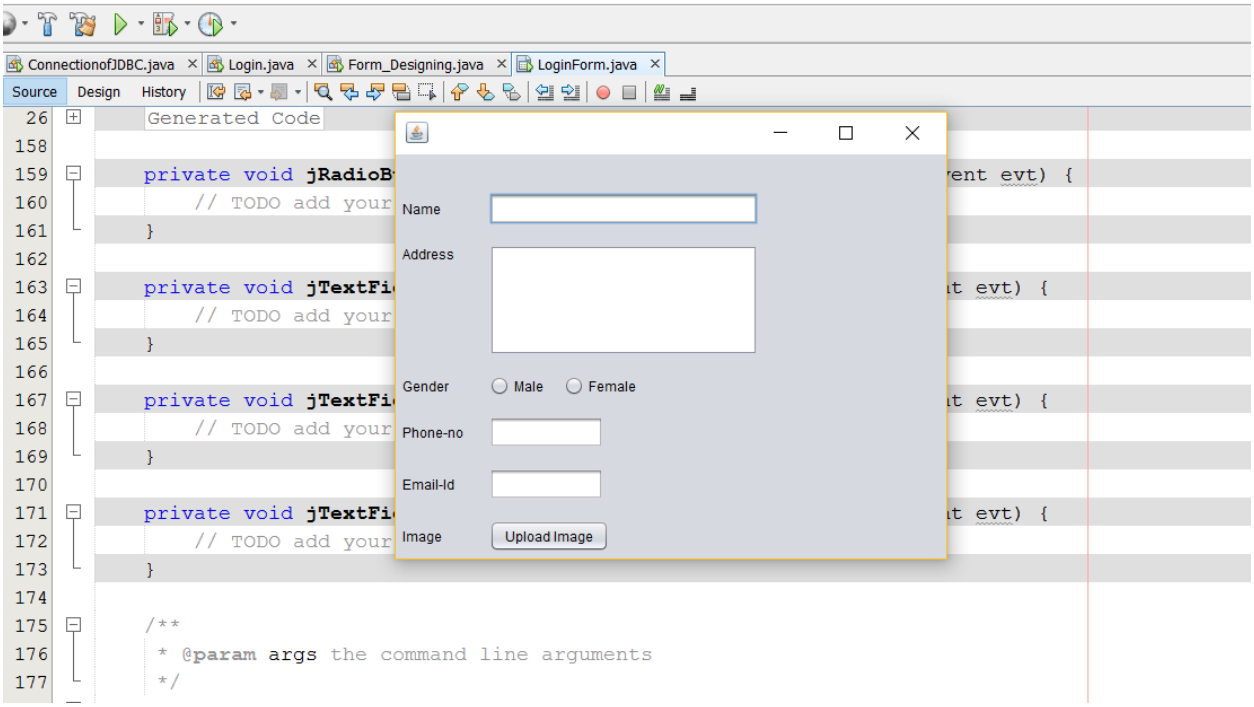
      message = new JLabel();
      panel.add(message);
      panel.add(submit);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      // Adding the listeners to components..
      submit.addActionListener(this);
      add(panel, BorderLayout.CENTER);
      setTitle("Please Login Here !");
      setSize(400,400);
      setVisible(true);
   }
   public static void main(String[] args) {
```

```
      new Login();
   }
   @Override
   public void actionPerformed(ActionEvent ae) {
      String userName = userName_text.getText();
      String password = password_text.getText();
      if (userName.trim().equals("admin") && password.trim().equals("admin")) {
         message.setText(" Hello " + userName + "");
      } else {
         message.setText(" Invalid user.. ");
      }
   }

}
```

Output:

1) Registration form, design output.



2) Login Form Design –

- If the entered details are correct

```
    // Submit
    submit = new JButton("SUBMIT");
    panel = new JPanel(new GridLayout(3, 1));
    panel.add(user_label);
    panel.add(userName_text);
    panel.add(password_label);
    panel.add(password_text);

    message = new JLabel();
    panel.add(message);
    panel.add(submit);
    setDefaultCloseOperation(JFrame.EXIT
    // Adding the listeners to components
    submit.addActionListener(this);
    add(panel, BorderLayout.CENTER);
    setTitle("Please Login Here !");
    setSize(400,400);
    setVisible(true);
}
public static void main(String[] args) {
    new Login();
}
@Override
public void actionPerformed(ActionEvent ae) {
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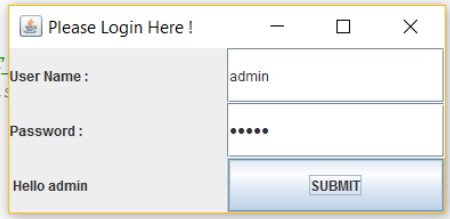

- If the entered details are incorrect

```
submit = new JButton("SUBMIT");
panel = new JPanel(new GridLayout(3, 1));
panel.add(user_label);
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panel.add(password_label);
panel.add(password_text);

message = new JLabel();
panel.add(message);
panel.add(submit);
setDefaultCloseOperation(JFrame.EXIT
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submit.addActionListener(this);
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setTitle("Please Login Here !");
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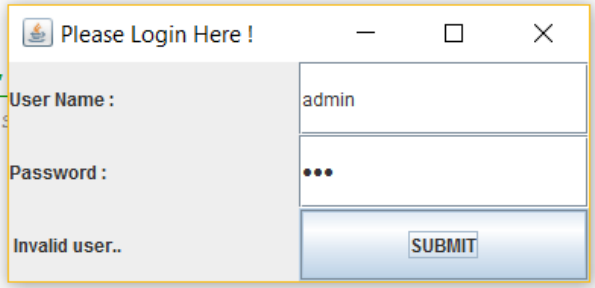
setVisible(true);
```



Display's the invalid user as an message after clicking on the submit button.

Conclusion: Log in and Registration, designed successfully using Swing GUI.