Java Programming

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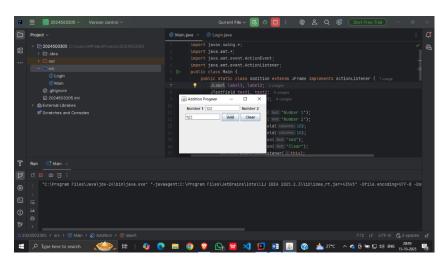
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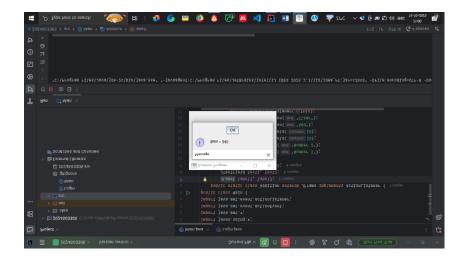
```
Addition Using GUI:
```

```
Code:
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Main {
  public static class Addition extends JFrame implements ActionListener {
    JLabel label1, label2;
    JTextField text1, text2;
    JButton button1, button2;
    Addition() {
      label1 = new JLabel("Number 1");
      label2 = new JLabel("Number 2");
      text1 = new JTextField(10);
      text2 = new JTextField(10);
      button1 = new JButton("Add");
      button2 = new JButton("Clear");
      button1.addActionListener(this);
      button2.addActionListener(this);
      setLayout(new FlowLayout());
      add(label1);
      add(text1);
      add(label2);
      add(text2);
      add(button1);
      add(button2);
      setSize(300, 200);
      setVisible(true);
      setDefaultCloseOperation(JFrame.EXIT ON CLOSE);
      setTitle("Addition Program");
```

```
}
    @Override
    public void actionPerformed(ActionEvent e) {
      if (e.getSource() == button1) { // Add button
        try {
          int num1 = Integer.parseInt(text1.getText());
          int num2 = Integer.parseInt(text2.getText());
          int sum = num1 + num2;
          JOptionPane.showMessageDialog(this, "Sum = " + sum);
        } catch (NumberFormatException ex) {
          JOptionPane.showMessageDialog(this, "Please enter valid
numbers!");
        }
      } else if (e.getSource() == button2) { // Clear button
        text1.setText("");
        text2.setText("");
    }
  }
  public static void main(String[] args) {
    new Addition();
}
```

Output:





Login Page Using GUI

Code:

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
public class Login extends JFrame implements ActionListener {
  JLabel userLabel, passLabel;
  JTextField userText:
  JPasswordField passText;
  JButton loginButton, clearButton;
  Login() {
    userLabel = new JLabel("Username:");
    passLabel = new JLabel("Password:");
    userText = new JTextField(15);
    passText = new JPasswordField(15);
    loginButton = new JButton("Login");
    clearButton = new JButton("Clear");
    loginButton.addActionListener(this);
    clearButton.addActionListener(this);
    setLayout(new GridLayout(3, 2, 10, 10));
    add(userLabel);
    add(userText);
    add(passLabel);
    add(passText);
    add(loginButton);
    add(clearButton);
    setTitle("Login Form");
```

```
setSize(300, 150);
    setLocationRelativeTo(null); // Center the window
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setVisible(true);
  }
  @Override
  public void actionPerformed(ActionEvent e) {
    if (e.getSource() == loginButton) {
      String username = userText.getText();
      String password = new String(passText.getPassword());
      if (username.equals("admin") && password.equals("1234")) {
        JOptionPane.showMessageDialog(this, "Login Successful!");
      } else {
        JOptionPane.showMessageDialog(this, "Invalid Username or
Password!");
      }
    } else if (e.getSource() == clearButton) {
      userText.setText("");
      passText.setText("");
  public static void main(String[] args) {
    new Login();
  }
}
```

Output:

