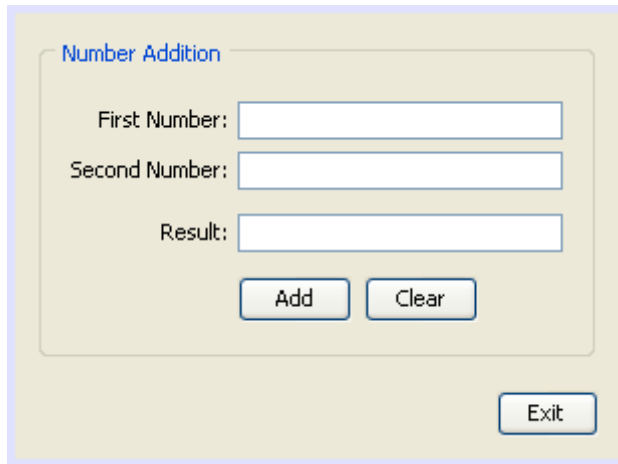


LAB Solution

Thursday 8/14/2008

Add the functions (add, clear and exit) to the GUI below. Use `ActionEvent` class, `actionPerformed` event and `ActionListener`.



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

public class NumberAddition extends JFrame implements ActionListener {

    JLabel l1 = new JLabel ("First Number: ", JLabel.RIGHT);
    JLabel l2 = new JLabel ("Second Number: ", JLabel.RIGHT);
    JLabel l3 = new JLabel ("Result: ", JLabel.RIGHT);

    JTextField t1 = new JTextField(10);
    JTextField t2 = new JTextField(10);
    JTextField t3 = new JTextField(10);

    JButton b1 = new JButton("ADD");
    JButton b2 = new JButton("CLEAR");
    JButton b3 = new JButton("Exit");

    JPanel p1 = new JPanel();
    JPanel p2 = new JPanel();

    NumberAddition(){
```

```
        super("NumberAddition");

        Container c = getContentPane();
        c.setLayout(new GridLayout(2, 1));

        c.add(p1);    c.add(p2);

        TitledBorder title;
        title = BorderFactory.createTitledBorder("Number Addition");
        p1.setBorder(title);

        p1.setLayout(new GridLayout(4,2));
        p2.setLayout(new FlowLayout(FlowLayout.RIGHT));

        p1.add(l1);        p1.add(t1);
        p1.add(l2);        p1.add(t2);
        p1.add(l3);        p1.add(t3);

        p1.add(b1);        p1.add(b2);
        p2.add(b3);

        // register listeners

        b1.addActionListener(this);
        b2.addActionListener(this);
        b3.addActionListener(this);

        pack();

        setVisible(true);

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }

    // listener method

    public void actionPerformed(ActionEvent e){
        if (e.getSource() == b1) {
            String number1 = t1.getText();
            int num1 = Integer.parseInt(number1);
            String number2 = t2.getText();
            int num2 = Integer.parseInt(number2);

            String sum = Integer.toString(num1 + num2);
```

```
        t3.setText(sum);
    }
    else if (e.getSource() == b2) {
        t1.setText("");
        t2.setText("");
        t3.setText("");
    }
    else if (e.getSource() == b3) {
        System.exit(0);
    }
}

public static void main(String s[]) {
    NumberAddition addition = new NumberAddition();
}
}
```