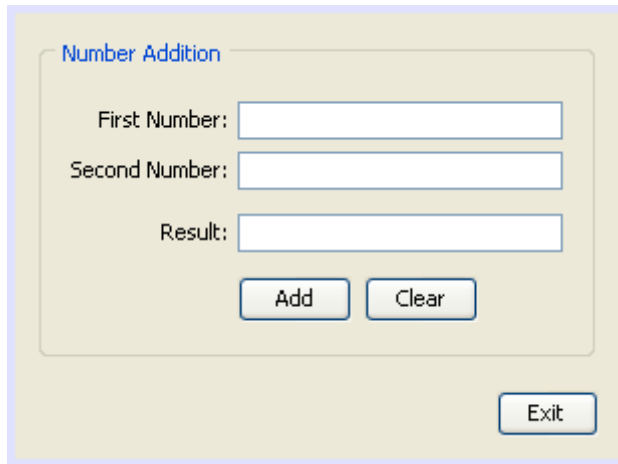


**LAB**

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 {
    // create JLabels
    ....

    // create JTextFields
    ....

    // create JButtons
    ....

    // create JPanels
    ....

    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);

        // add JPanels
        ....

        // add JLabels
        ....

        // add JTextFields
        ....

        // add JButtons
        ....

        // register listeners
        ....

        pack();

        setVisible(true);

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }

    // listener method
    public void actionPerformed(ActionEvent e){
        if (e.getSource() == b1) {
            ....
        }
        else if (e.getSource() == b2) {
            ....
        }
        else if (e.getSource() == b3) {
            ....
        }
    }

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