

30/08/24

LAB

USER INTERFACE

Division mainI.java

```
import java.awt.*;
```

```
import java.awt.event.*;
```

```
public class DivisionMainI extends JFrame  
implements ActionListener {
```

```
    TextField num1, num2;
```

```
    Button dResult;
```

```
    Label outResult;
```

```
    String out = "";
```

```
    double resultNum;
```

```
    int flag = 0;
```

```
    public DivisionMainI() {
```

```
        setLayout(new FlowLayout());
```

```
        dResult = new Button("RESULT");
```

```
        Label number1 = new Label("number1");  
        add(number1, Label.RIGHT);
```

```
        num1 = new TextField(15);
```

```
        num2 = new TextField(15);
```

```
        outResult = new Label("Result: ", Label.  
                                RIGHT);
```

```
        add(number1);
```

```
        add(num1);
```

```
        add(number2);
```

```
        add(num2);
```

```
        add(dResult);
```

```
        add(outResult);
```

```
num1.addWindowListener(this);
addWindowListener(new WindowAdapter() {
```

```
    public void windowClosing(WindowEvent we) {
```

```
        System.exit(0);
```

```
    }
}
```

```
public void actionPerformed(ActionEvent ae) {
```

```
    int n1, n2;
```

```
    try {
```

```
        if (ae.getSource() == dResults) {
```

```
            n1 = Integer.parseInt(num1.getText());
```

```
            n2 = Integer.parseInt(num2.getText());
```

```
            if (n2 == 0)
```

```
                throw new ArithmeticException();
```

```
            out.setText(n1 + " + " + n2);
```

```
            result = num1 + n2;
```

```
            out.setText(String.valueOf(result));
```

```
            repaint();
```

```
        }
    }
}
```


Catch (NumberFormatException e1)

```
    flag = 1;  
    out = "number Format Exception!" + e1;  
    repaint();  
}
```

Catch (ArithmeticException e2)

```
    flag = 1;  
    out = "divide by 0 Exception!" + e2;  
    repaint();  
}
```

Public void paint (Graphics g)

```
{  
    Dimension d1 = new Dimension(800, 400);  
    d1.setSize(d1.getWidth(), d1.getHeight());  
    d1.setTitle("Division of Integers");  
    d1.setVisible(true);  
}
```

Output

number 1 2 · ~~number 2~~ 1

Result 212

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18mzcs256

Functions used:-

- 1) JFrame :- it is a top level container in Java string that represent a window with a title bar bold and optional number.
- 2) SetSize :- it is used to set size of the frame
- 3) setLayout :- this line sets the layout manager for the frame to FlowLayout which arranged components from left to right in the flow manner
- 4) add :- this line adds the error label to the frame
- 5) setText :- this line sets the text of the 'A' label to display the value of 'A'
- 6) setVisible :- this line makes the frame visible
- 7) ~~invokeLater~~ :- to perform task asynchronously in the awt event dispatching thread

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