LAB - 09

JAVA AWT AND APPLET

29/03/24

Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the textfields, Num1 and Num2. The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num2 were zero, the program would throw an exception in a message dialog box —

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

public class DivisionMain1 extends Frame implements ActionListener
{
    TextField num1, num2;
    Button dResult;
    Label outResult;
    String out = "";
    double resultNum;
    int flag = 0;

    public DivisionMain1()
    {
        setLayout(new FlowLayout());
        dResult = new Button("RESULT");
        Label number1 = new Label("Number 1 : ", Label.RIGHT);
        Label number2 = new Label("Number 2 : ", Label.RIGHT);
        num1 = new TextField(5);
        num2 = new TextField(5);
        outResult = new Label("Result : ", Label.RIGHT);

        add(number1);
        add(num1);
        add(number2);
        add(num2);
        add(dResult);
```

```
num1.addActionListener (this);
num2.addActionListener (this);
dResult.addActionListener (this);
addWindowListener (new WindowAdapter())
{
    public void WindowClosing (WindowEvent we)
    {
        System.exit(0);
    }
});
}

public void actionPerformed (ActionEvent ae)
{
    int n1, n2;
    try
    {
        if (ae.getSource() == dResult)
        {
            n1 = Integer.parseInt (num1.getText());
            n2 = Integer.parseInt (num2.getText());
            out = n1 + " " + n2;
            resultNum = n1/n2;
            out += String.valueOf (resultNum);
            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
{ if (flag == 0)
{ g.drawString (out, outResult.getX() + outResult.getWidth(), outResult.getY() +
                outResult.getHeight() - 8); }

else
{ g.drawString (out, 100, 200);
  flag = 0; }

}

public static void main (String [] args)
{
  DivisionMain1 dm = new DivisionMain1();
  dm.setSize (new Dimension (500, 400));
  dm.setTitle ("Division of Integers");
  dm.setVisible (true);
}
}
```

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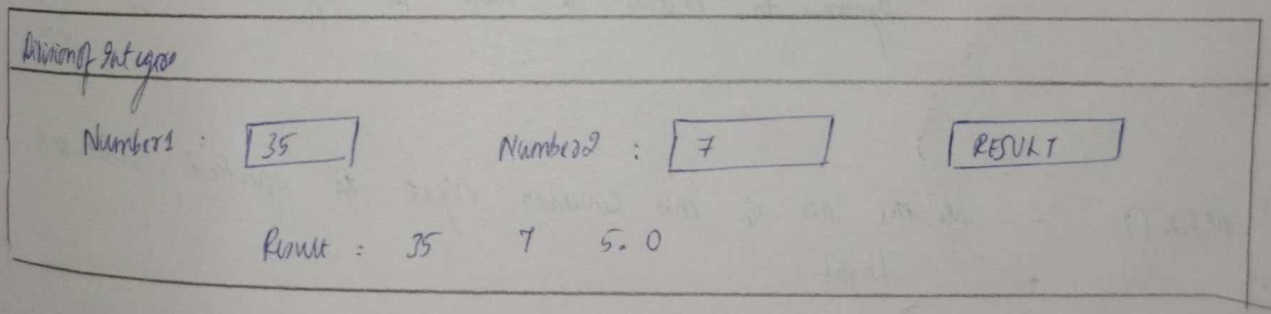
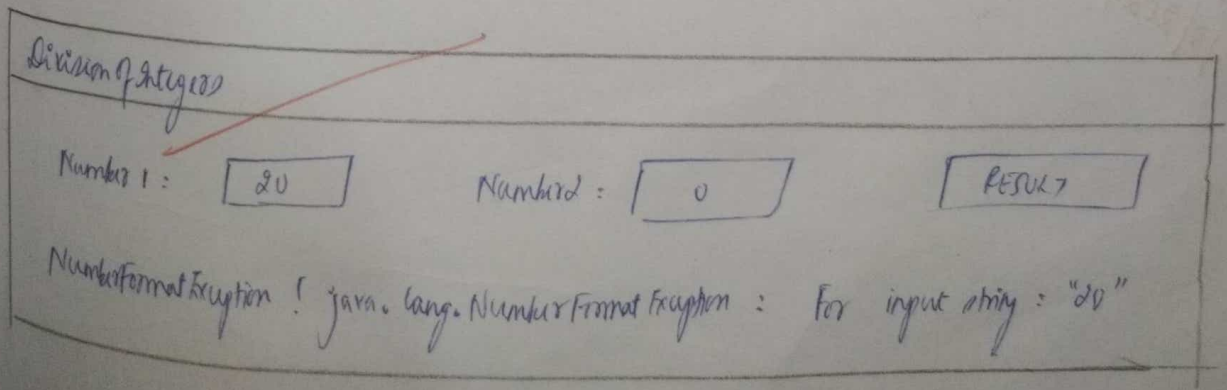
OUTPUT —





Functions used

1. FlowLayout () – The flow layout manager. Flow layout positions components left to right, top to bottom.

2. Button – creates a push button control

3. Label – creates a label that displays a string

4. TextField – creates a single line edit control

5. WindowEvent – Generated when a window is activated, closed, deactivated, deconified, iconified, opened or quit.

6. WindowClosing – Their requested that the window is closed

7. ActionListener – Defines one method to receive action events

8. WindowListener – Defines seven methods to recognize when a window is activated, closed, deactivated ..

9. repaint () – Defined by Component. It causes the AWT run time system to execute a call to update () method.

10. setSize () – sets the size of this Dimension object to specified width and height

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