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Lab-10

Q) Write a program that creates a user interface to perform integer division. The user enter two numbers in the text fields, Num1 and Num2. The division of Num1 and Num2 is displayed in the Result field when the divide button is clicked. If Num1 or Num2 were not an integer, the program would throw a NumberFormatException. If Num2 were Zero, the program would throw an ArithmeticException Display the exception in a message dialog box.

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

class SampleDialog extends Dialog implements ActionListener
{
    IntDivision iObj;
    SampleDialog (Frame parent, String title) {
        super (parent, title, false);
        iObj = (IntDivision) parent;
        setLayout (new FlowLayout ());
        setSize (100, 50);
        add (new Label (iObj.msg));
        Button b;
        add (b = new Button ("OK"));
        b.addActionListener (this);
    }
    public void actionPerformed (ActionEvent ae) {
        dispose ();
    }
}
```

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```
class IntDivision extends Frame implements ActionListener
{
    Button calculate;
    TextField int1;
    TextField int2;
    double Result;
    int a, b;
    String msg = "Enter the Two Numbers";
    Dialog SampleDialog;
    public IntDivision() {

        setLayout(new FlowLayout());

        calculate = new Button("calculate");
        int1 = new TextField(10);
        Label n1 = new Label("Number 1", Label.RIGHT);
        int2 = new TextField(10);
        Label n2 = new Label("Number 2", Label.RIGHT);

        add(n1);
        add(int1);
        add(n2);
        add(int2);
        add(calculate);
        int1.addActionListener(this);
        int2.addActionListener(this);
        calculate.addActionListener(this);
        addWindowListener(new WindowAdapter());
}
```

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```
public void actionPerformed (ActionEvent ae){
    try {
        result = onDivision();
        msg = ("The Final result is : " + result);
        repaint();
    }
    catch (NumberFormatException e){
        msg = ("the number is not an integer "+e);
        repaint();
    }
    catch (ArithmeticException e){
        msg = ("The integer cannot be divided by zero"
                +e);
        SampleDialog dia = new SampleDialog (this, "Dialog",
        dia.setSize (new Dimension (600, 300));
        dia.setVisible (true);
    }
}

public double onDivision (){
    a = Integer.parseInt (int1.getText());
    b = Integer.parseInt (int2.getText());
    if (b == 0){
        throw new ArithmeticException();
    }
    return (double) a/b;
}

public void paint (Graphics g){
    g.drawString (msg, 200, 200);
}
```

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```
public static void main ( String args [] ) {
    IntDivision d = new IntDivision ();
    d. setSize ( new Dimension (500, 500));
    d. setTitle ("Integer Division");
    d. setVisible ( true );
}
}

class MyWindowAdapter extends WindowAdapter {
    public void WindowClosing ( WindowEvent e) {
        System. exit (0);
    }
```