

OOJ LAB PROGRAM 10
EXECUTION:-

```

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

class NumException extends Exception{
    public String toString()
    {
        return "There is an Arithmetic Exception.";
    }
}

class FormatException extends Exception{
    public String toString()
    {
        return "There is an Format Exception.";
    }
}

public class dividenums extends Frame implements ActionListener{
    TextField num1,num2;
    Button div;
    double result;
    String msg="The result is: 0.0";
    public dividenums()
    {
        setLayout(new FlowLayout());

        Label num1n= new Label("Numerator: ",Label.RIGHT);
        Label num2n= new Label("Denominator: ",Label.RIGHT);
        Button div= new Button("Divide");
        num1=new TextField(5);
        num2=new TextField(5);

        add(num1n);
        add(num1);
        add(num2n);
        add(num2);
        add(div);
    }
}

```

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num1.addActionListener(this);
num2.addActionListener(this);
div.addActionListener(this);

addWindowListener(new WindowAdapter()
{
    public void windowClosing(WindowEvent we)
    {
        System.exit(0);
    }
});
}
public boolean isDouble(double num)
{
    double dec;
    dec=num-(int)num;
    if(dec==0.0)
        return false;
    else
        return true;
}
public double divide(double a, double b) throws NumException, FormatException
{
    if(b==0.0)
    {
        throw new NumException();
    }
    else if(isDouble(a) || isDouble(b))
    {
        throw new FormatException();
    }
    return (double) a/b;
}

```

```

public void actionPerformed(ActionEvent ae)
{
    double a,b;
    a=Double.parseDouble(num1.getText());
    b=Double.parseDouble(num2.getText());
    try{
        result=divide(a,b);
        msg=("The result is: "+result);
    }
    catch(NumException ne)
    {
        msg=ne.toString();
    }
    catch(FormatException fe)
    {
        msg=fe.toString();
    }
    repaint();
}
public void paint(Graphics g)
{
    g.drawString(msg,50,150);
}
public static void main(String args[])
{
    dividenums appwin= new dividenums();

    appwin.setSize(new Dimension(350,300));
    appwin.setTitle("Divide Two Numbers");
    appwin.setVisible(true);
}
}

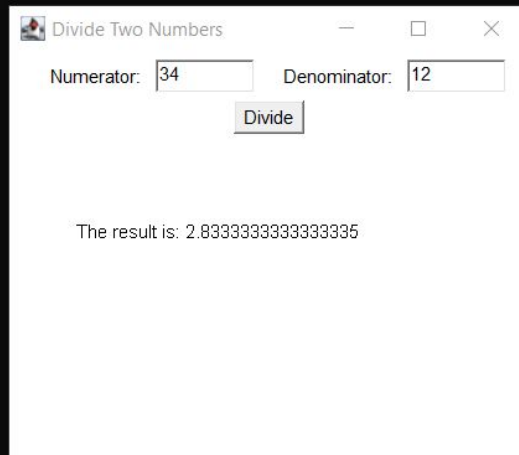
```

OUTPUT:-

dividenums - Window

```
C:\Users\mithilraj>cd C:\Users\mithilraj\Desktop\java\Week12_LabProgram10
```

```
C:\Users\mithilraj\Desktop\java\Week12_LabProgram10>java dividenums
```



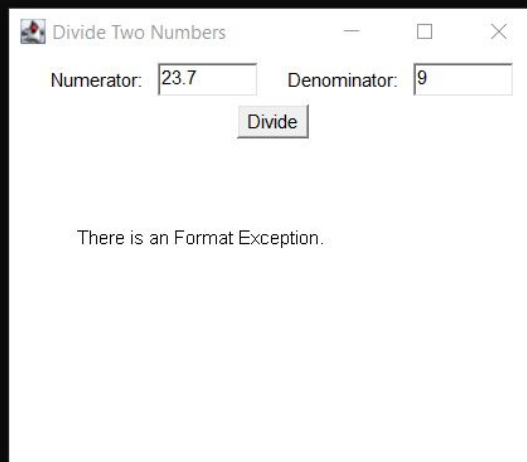
Divide Two Numbers

Numerator: Denominator:

The result is: 2.8333333333333335

```
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```

```
C:\Users\mithilraj\Desktop\java\Week12_LabProgram10>java dividenums
```



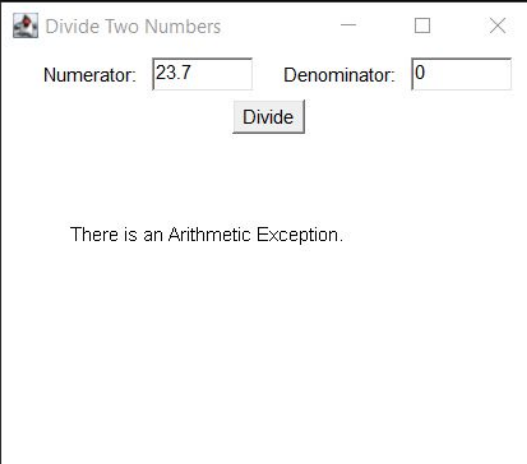
Divide Two Numbers

Numerator: Denominator:

There is an Format Exception.

```
C:\Users\mithilraj>cd C:\Users\mithilraj\Desktop\java\Week12_LabProgram10
```

```
C:\Users\mithilraj\Desktop\java\Week12_LabProgram10>java dividenums
```



The image shows a Java Swing window titled "Divide Two Numbers". It contains two text input fields: "Numerator:" with the value "23.7" and "Denominator:" with the value "0". Below these fields is a button labeled "Divide". At the bottom of the window, a message states "There is an Arithmetic Exception.".