

WEEK 12 PLAB PROGRAM 10.

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

```
class NumException extends Exception  
{  
    public String toString()  
        return "Arithmetic exception.";  
}
```

```
class FormatException extends Exception  
{  
    public String toString()  
        return "Format Exception";  
}
```

```
public class divi extends Frame implements  
    ActionListener
```

```
{  
    TextField num1, num2;  
    Button div;  
    double result;  
    String msg = "Result: ";  
    public divi()
```

```

{
    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);

```

```

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

```

```

}

```



```
public boolean isDouble (double no)
```

```
{  
    double d;  
    d = no - int(ano);  
    if (d == 0.0)  
        return false;  
    else  
        return true;  
}
```

```
public double divide (double a, double b)
```

```
{  
    if (b == 0.0)  
        throw new RuntimeException();  
    else if (isDouble(a) || isDouble(b))  
        throw new FormatException();  
    else  
        return (double) a/b;  
}
```

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

```
{  
    double a, b;  
    a = Double.parseDouble (num1.  
        getText());  
    b = Double.parseDouble (num2.  
        getText());  
}
```

```

b = double.parseDouble(num2.getText());
try {
    result = divide(a, b);
    msg = ("The result is" + result);
}
catch (NumberFormatException 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[])
{

```

```

    divide obj aa = new divide();
    aa.setSize(new Dimension(350, 300));
    aa.setTitle("Divide 2 nos");
    aa.setVisible(true);

```

```

    }
}

```

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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(div);
    }
}
```


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```
    add(num2n);
    add(num2);
    add(div);

    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();
    }
}
```

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```
    }  
    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.setVisible(true);  
    appwin.setSize(300,300);  
    appwin.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    appwin.setLocationRelativeTo(null);  
    appwin.setVisible(true);  
}
```

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```
        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);
    }
}
```


