PROGRAM 9

Write a program that creates a user interface to perform

integer divisions. The user enters 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 Arithmetic

Exception Display the exception in a message dialog box.

```java
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());
```

```java
        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);
        add(outResult);

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

        setTitle("Division Calculator");
        setSize(300, 150);
        setVisible(true);
    }

    public void actionPerformed(ActionEvent ae) {
        int n1, n2;
        try {
            if (ae.getSource() == dResult) {
                n1 = Integer.parseInt(num1.getText());
                n2 = Integer.parseInt(num2.getText());

                if (n2 == 0) {
                    throw new ArithmeticException();
                }

                resultNum = (double) n1 / n2;
```

```java
                out = n1 + " / " + n2 + " = " + 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 void paint(Graphics g) {
        if (flag == 0) {
            g.drawString(out, 100, 100);
        } else {
            g.drawString(out, 100, 100);
            flag = 0;
        }
    }

    public static void main(String[] args) {
        new DivisionMain1();
    }
}
```
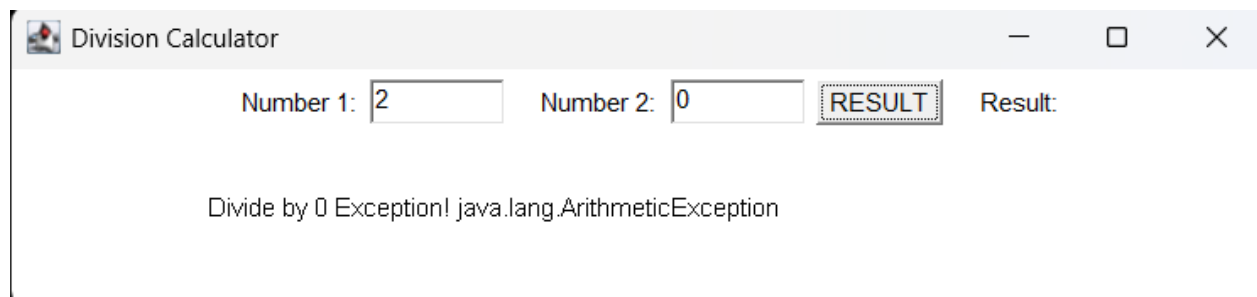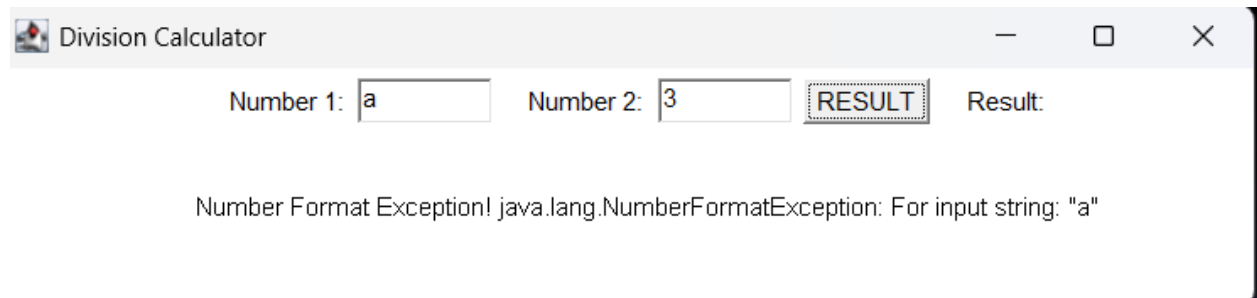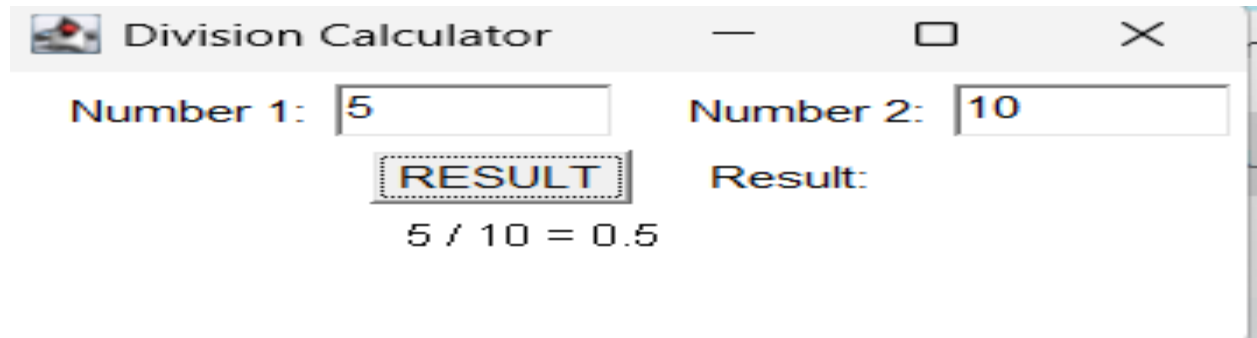
OUTPUT:

Division Calculator

Number 1: 5   Number 2: 10

RESULT   Result:

5 / 10 = 0.5

Division Calculator

Number 1: a   Number 2: 3   RESULT   Result:

Number Format Exception! java.lang.NumberFormatException: For input string: "a"

Division Calculator

Number 1: 2   Number 2: 0   RESULT   Result:

Divide by 0 Exception! java.lang.ArithmeticException

NOTES:

9. write a program that creates a user Interface to perform integer divisions. The user enters two numbers in the text fields, num1 and num2. the division of num1 and num2 is displayed in the result flied when divide: button is clicked. if num1 or num2 were not a integer an arithematic exception Display the exception in the message dialog box.

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

public class DivisionMain extends Frame
implements Action.Listener
{
    TextFleld
    num1, num2;
    Button dResult;
    label out Result;
    String out = " ";
    double resultNum;
    int flag = 0;

    public DivisionMain ()
    {
        setLayout (new FlowLayout ());

        dResult = new Button ("Result");
        label number1 = new label ("Number1 ",
        label.Right );
```

```
Label number 2 = new label ("Number 2:",
label.RIGHT);
num1 = new TextField (5);
num2 = new TextField (5);
outResult = new label ("Result ", label.RIGHT);


add (number 1);
add (num1);
add number2);
add (num2);
add (dResult);
add (out Result);
num1 addActionListiner (this);
num2.addAction Listiner (this);
add window Listiner (this);
windowAdapter ()
{
   public void windowClosing (window Event
we)
   {
   system.exit (0);
   }
3);
   public void action performed (Action Event ae)
   {
      int n1, n2;
      try {
         if (ae.getSource () == dResult)
```

```java
if (n2==0)
    throw new
Arithmetic Exception ();
out = n1 + " " + n2 + " ";
resultNum = n1/n2;
out += string.value of (resultNum);
repaint();
}
}
catch (Number Format Exception e1)
{
    flag=1;
    out = "Number Format Exception! " + e1;
    repaint();
}
catch (Arithematic Exception e2)
{
    flag=1;
    out = "Divide by 0 Exception! " + e2;
    repaint();
}
}

public void paint (Graphics g)
{
    if (flag == 0)
    g.drawstring(out, outResult.getX() +
        outResult.getwidth(), outresult.gety
        () + out result.getHeight - 8);
    else
```