Lab Program 9

Q} 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.

OBSERVATION:

8) Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields, Num1 & Num2. The division of Num1 & 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 message dialog box.

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

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 (" ", Label. Right);
add (number1);
add (num1);
add (number2);
add (num2);
add (dResult);
add (outResult);
num1. add ActionListener (this);
num2. add ActionListener (this);
dResult . add ActionListener (this);
add windowListener (new WindowAdapter () {
    Public void windowClosing (WindowEvent e){
        System. exit(0);
    }
});
}

Public void actionPerformed (ActionEvent e) {
    Int n1, n2;
    try {
        if (e. getSource() == dResult) {
        n1 = Integer. parseInt (num1. getText());
        n2 = Integer . parseInt (num2. getText());
        if (n2 == 0) {
            throw new ArithmeticException();
        }
        out = n1 + "/" + n2 + " = ";
        resultNum = (double) n1 / n2;
        out t = resultNum;
    }
}
```

```
catch (NumberFormatException e1) {
        flag = 1;
        out = "Number Format exception! " +
                e1.getMessage();
    }
    catch (ArithmeticException e1) {
        flag = 1;
        out = "Divide by 0 exception! " + e1.getMessage();
    }
    outResult.setText(out);
    invalidate();
    validate();
  }
}
Public class Main {
    p.s.v.m(){
    DivisionMain1 obj = new DivisionMain1();
    obj.setSize(new Dimension(800, 400));
    obj.setTitle("Division of Integers")
    obj.setVisible(true);
  }
}
```

Sample outputs:

Number 1 : 20 Number 2 : 4 (Button Pressed) Result : 20/4 5.0

Number 1 : 20 Number 2 : 0 Result : Divide by 0 exception! / by zero.

Number 1 : abc Number 2 : 5 Result : Number Format exception! For input string: "abc"

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

```
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("", 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 e) {
                System.exit(0);
            }
        });
    }

    public void actionPerformed(ActionEvent e) {
        int n1, n2;
        try {
            if (e.getSource() == dResult) {
                n1 = Integer.parseInt(num1.getText());
                n2 = Integer.parseInt(num2.getText());
                if (n2 == 0) {
                    throw new ArithmeticException();
                }
                out = n1 + "/" + n2 + " ";
                resultNum = (double) n1 / n2;
                out += resultNum;
```

```
            }
        } catch (NumberFormatException e1) {
            flag = 1;
            out = "Number Format Exception! " + e1.getMessage();
        } catch (ArithmeticException e1) {
            flag = 1;
            out = "Divide by 0 Exception! " + e1.getMessage();
        }
        outResult.setText(out);
        invalidate();
        validate();
    }
}

public class Main {
    public static void main(String args[]) {
        DivisionMain1 obj = new DivisionMain1();
        obj.setSize(new Dimension(800, 400));
        obj.setTitle("DivisionOfIntegers");
        obj.setVisible(true);
    }
}
```

//output