

9. Write a program that creates a user interface to perform integer division. The user enters two numbers in the text fields, Num 1 & Num 2. The division of Num 1 & Num 2 is displayed in the Result field when the divide button is clicked. If Num 1 or Num 2 were not an integer the program would throw a NumberFormat exception. If Num 2 were zero, the program would throw an Arithmetic exception. Display the exception in a dialog box.

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

public class DivisionMain extends Frame
    implements ActionListener {
    TextField num1, num2;
    Button dResult;
    Label outResult;

    public DivisionMain() {
        setLayout(new FlowLayout());
        dResult = new Button("Result");
        Label number1 = new Label("Number 1");
        Label number2 = new Label("Number 2");
        num1 = new TextField(5);
        num2 = new TextField(5);
        outResult = new Label("Result:");
        add(number1);
        add(num1);
        add(number2);
        add(num2);
        add(dResult);
        add(outResult);
    }

    void actionPerformed(ActionEvent e) {
        if (e.getSource() == dResult) {
            try {
                int n1 = Integer.parseInt(num1.getText());
                int n2 = Integer.parseInt(num2.getText());
                int result = n1 / n2;
                outResult.setText("Result: " + result);
            } catch (NumberFormatException ex) {
                JOptionPane.showMessageDialog(this, "Please enter integers!");
            } catch (ArithmeticException ex) {
                JOptionPane.showMessageDialog(this, "Division by zero is not allowed!");
            }
        }
    }
}
```

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

```
setTitle("Integer Division");
setSize(400, 200);
setVisible(true);
```

```
y.
public void actionPerformed(ActionEvent ae) {
```

```
    if (ae.getSource() == dResult) {
```

```
        int n1 = Integer.parseInt(text1.getText());
        int n2 = Integer.parseInt(text2.getText());
```

```
        if (n2 == 0) {
```

```
            throw new ArithmeticException("
```

```
cannot divide by zero");
```

```
        int result = n1 / n2;
```

```
        outResult.setText("Result : " + result);
```

```
y
```

```
catch (NumberFormatException e) {
```

```
    JOptionPane.showMessageDialog(this,
        "Please enter valid integers!", "Number Format
```

```
Exception", JOptionPane.ERROR_MESSAGE);
```

```
y
catch (ArithmaticException e) {
```

```
    JOptionPane.showMessageDialog(this, e.getMessage(),
        "Arithmatic Exception", JOptionPane.ERROR_MESSAGE);
```

3.
public static void main (String [] args) {
 new DivisionFrame();
}

O/P:
Entering valid integers and clicking "RESULT"
display the result in the Result label.

Invalid Inputs (non-integer values or division
by zero) show appropriate error message in
a dialog box.