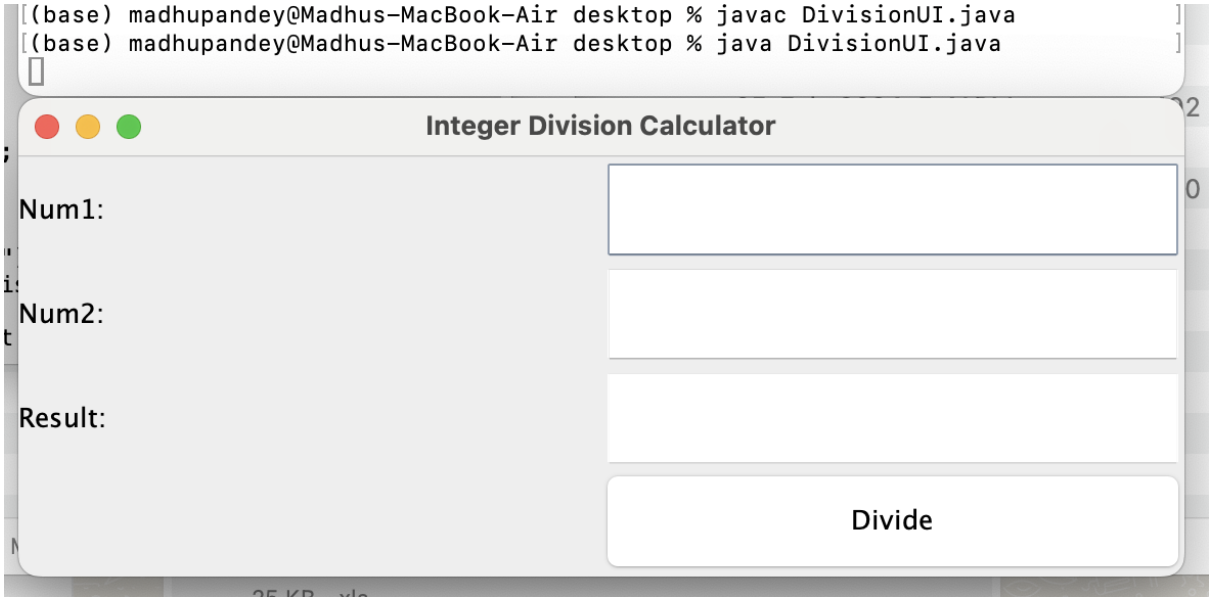
LAB PROGRAM 9

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.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class DivisionUI extends JFrame {

   private JTextField num1Field, num2Field, resultField;

   public DivisionUI() {
      setTitle("Integer Division Calculator");
      setSize(300, 150);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      setLocationRelativeTo(null);

      createUI();
   }

   private void createUI() {
      JPanel panel = new JPanel();
      panel.setLayout(new GridLayout(4, 2));

      JLabel num1Label = new JLabel("Num1:");
      num1Field = new JTextField();
      JLabel num2Label = new JLabel("Num2:");
      num2Field = new JTextField();
      JLabel resultLabel = new JLabel("Result:");
      resultField = new JTextField();
      resultField.setEditable(false);

      JButton divideButton = new JButton("Divide");
      divideButton.addActionListener(new ActionListener() {

         public void actionPerformed(ActionEvent e) {
            performDivision();
         }
      });
```

```
        panel.add(num1Label);
        panel.add(num1Field);
        panel.add(num2Label);
        panel.add(num2Field);
        panel.add(resultLabel);
        panel.add(resultField);
        panel.add(new JLabel()); // Empty label for spacing
        panel.add(divideButton);

        add(panel);
    }

    private void performDivision() {
        try {
            int num1 = Integer.parseInt(num1Field.getText());
            int num2 = Integer.parseInt(num2Field.getText());

            if (num2 == 0) {
                throw new ArithmeticException("Division by zero is not allowed");
            }

            int result = num1 / num2;
            resultField.setText(String.valueOf(result));

        } catch (NumberFormatException e) {
            JOptionPane.showMessageDialog(this, "Please enter valid integers for Num1 and
Num2.",
                    "Number Format Error", JOptionPane.ERROR_MESSAGE);

        } catch (ArithmeticException e) {
            JOptionPane.showMessageDialog(this, "Cannot divide by zero.", "Arithmetic Error",
                    JOptionPane.ERROR_MESSAGE);
        }
    }

    public static void main(String[] args) {
        SwingUtilities.invokeLater(new Runnable() {

            public void run() {
                new DivisionUI().setVisible(true);
            }
        });
    }
}
```


(base) madhupandey@Madhus-MacBook-Air desktop % javac DivisionUI.java
(base) madhupandey@Madhus-MacBook-Air desktop % java DivisionUI.java
Integer Division Calculator
Num1:
Num2:
Result:
Divide