23/2/24

LAB 7

Program 9:

WAP that creates a user interface to perform integer divisions. The user enters 2 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 ArithmeticException Display the exception in a message dialog box.

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

class SwingDemo
{
    SwingDemo()
    {
        JFrame jfrm = new JFrame("Divider App");
        //creating a frame container.

        jfrm.setSize(275, 150);
        //sets the size of frame.

        jfrm.setLayout(new FlowLayout());
        // makes the layout a simple layout
in which the components are arranged left
to right.
```

jfm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
//on clicking close it closes the frame.

JLabel jlab = new JLabel("Enter the divider and divident:");
//creates a label saying enter divider & divident

JTextField ajtf = new JTextField(5);
JTextField bjtf = new JTextField(8);
//sets the ~~size~~ textfield for the numbers.

JButton button = new JButton("Calculate");
// creates a button which has Calculate as ~~placeholder~~ the name.

JLabel err = new JLabel();
JLabel alab = new JLabel();
JLabel blab = new JLabel();
JLabel anslab = new JLabel();
//creates labels for a, b, answer, error.

jfram.add(err);
jfram.add(jlab);
jfram.add(ajtf);
jfram.add(bjtf);

jfram.add(button);
jfram.add(alab);
jfram.add(blab);
jfram.add(anslab); //.add adds the contents onto the fram

```
ActionListener I = new ActionListener()
{
public void actionPerformed(ActionEvent evt)
{
    System.out.println("Action event from a
                        text field");
}
};  // when an event is ~~form~~ performed in
       the text field statement is printed.

ajtf.addActionListener(I);
bjtf.addActionListener(I);
// ActionListener defines what action should
   be performed

button.addActionListener(new ActionListener()
{
   public void actionPerformed(ActionEvent evt)
   {
     try{
        int a = Integer.parseInt(ajtf.getText());
        int b = Integer.parseInt(bjtf.getText());
        int ans = a+b;
        alab.setText("A = "+a)
        blab.setText("B = "+b);
        anslab.setText("Ans = "+ans);
     }
     // setText() sets the text in the
        label.
```

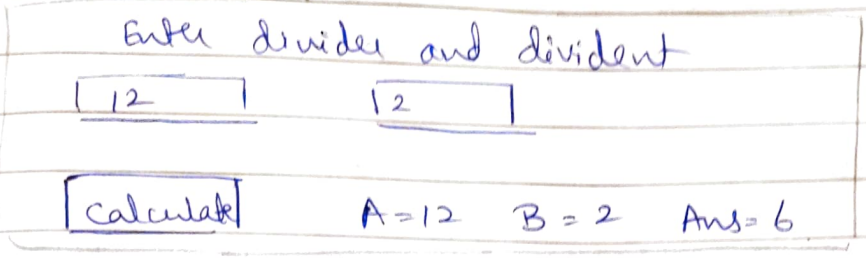
```
catch (NumberFormatException e)
{
    alab.setText("");
    blab.setText("");
    anslab.setText("");
    er.setText("Enter only Integer");
} //prints error text when error occurs

catch (ArithmeticException e)
{
    alab.setText("");
    blab.setText("");
    anslab.setText("");
    er.setText("B should be nonzero"); }
}
});

}jfm.setVisible(true); //makes the frame visible

public static void main(String args[])
{
    SwingUtilities.invokeLater(new Runnable()
    {
        public void run()
        {
            new SwingDemo();
        }
    });
}
}. //invoke later makes the events synchronized
```

OUTPUT: Divider App



Functions used:

javax.swing is a ~~Package~~ Package which has the sub package swing.

- setSize() is the function that sets the size of the frame

- setLayout(new FlowLayout()) sets the layout into a simple layout in which components are arranged left to right.

- setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE) sets the default close operation on the frame which says that it must close on exiting

JLabel is used for displaying specified text.

JTextField() creates a text field of specified size.

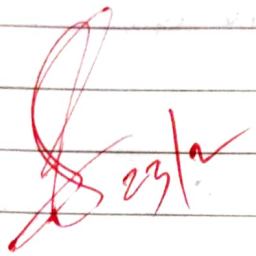
- add() adds the contents onto the frame.

ActionListener() specifies what action must be performed

.setText() sets text on the label

.setVisible() displays the frame

SwingUtilities.invokeLater makes the events synchronized



```
C:\Users\admin\Desktop\ooj12>
C:\Users\admin\Desktop\ooj12>javac SwingDemo.java

C:\Users\admin\Desktop\ooj12>java SwingDemo
NAME:ADIKAR CHARVI SREE TEJA USN:1BM22CS012
```