20-2-24

1. Write a program that creates interface to perform integer divisions. The user enters 2 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 & 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.*;

class SwingDemo{
    SwingDemo(){
      JFrame jfrm = new JFrame("Divider app");
      jfrm.setSize(275, 200);
      jfrm.setLayout(new FlowLayout());
      jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_
      CLOSE);
      JLabel jlab = new JLabel("Enter dividend
       and divisor:");
      JTextField ajtf = new JTextField(8);
      JTextField bjtf = new JTextField(8);
      JButton button = new JButton("Calculate");
      JLabel err = new JLabel();
      JLabel alab = new JLabel();
      JLabel blab = new JLabel();
      JLabel anslab = new JLabel();

      jfrm.add(jlab);
      jfrm.add(ajtf);
```

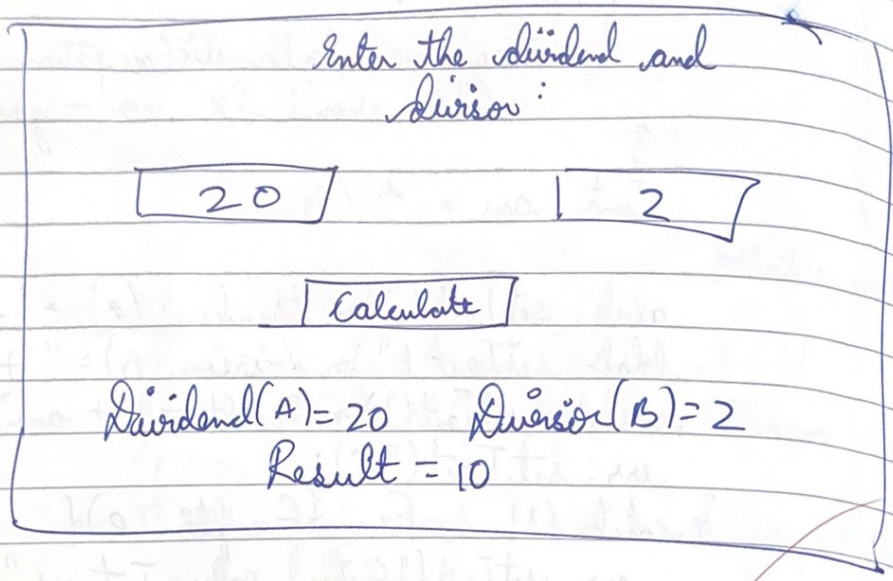
```
jfram.add(bjtf);
jfrm.add(button);
jfrm.add(err);
jfrm.add(alab);
jfrm.add(blab);
jfrm.add(anslab);

button.addActionListener(new ActionListener(){
public void actionPerformed(ActionEvent evt){
  try{
    int a = Integer.parseInt(ajtf.getText());
    int b = Integer.parseInt(bjtf.getText());
    if(b==0){
      throw new ArithmeticException
        ("B should be non-zero!");
    }
    int ans = a/b;

    alab.setText("\n Dividend (A) = " + a);
    blab.setText("\n Divisor (B) = " + b);
    anslab.setText("\n Result = " + ans);
    err.setText(" ");
  }catch(NumberFormatException e){
    err.setText("Enter only Integers");
    alab.setText(" ");
    blab.setText(" ");
    anslab.setText(" ");
  }catch(ArithmeticException e){
    err.setText("B should be non-zero!");
    alab.setText(" ");
    blab.setText(" ");
    anslab.setText(" ");
  }
}});
```

```
    jfrm.setVisible(true);
}
public static void main(String args[]){
    SwingUtilities.invokeLater(new Runnable(){
        public void run(){
            new SwingDemo();
        }
    });
}
```

O/P:



★ Functions used in the program:-

1. SwingDemo() - Constructor for initializing the Swing interface.
2. setSize - for setting the size of JFrame.
3. JFrame() - Constructor for creating a new JFrame.

4. setLayout (LayoutManager mgr) - Sets the layout manager for the JFrame.

5. JLabel (String txt) - Constructor method for creating JLabels with requires text content.

6. JTextField(int columns): Creates a JTextFields with specified number of columns.

7. JButton (String text): Creates a JButton with specified text.

8. addActionListener(ActionListener Listener): Method to add an action listener to the button to detect and handle an action.

9. setText(String text): Sets the text of JLabel/JTextfield to the specified text.

10. setVisible(boolean b): Sets the visibility of the JFrame.

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