20/2/24

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 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");
        jfrm.setSize(275,150);
        jfrm.setLayout(new FlowLayout());
        jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    JLabel jlab = new JLabel("Enter the divider and dividend:");
    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(err);
jfrm.add(jlab);
jfrm.add(ajtf);
jfrm.add(bjtf);
jfrm.add(button);
jfrm.add(alab);
jfrm.add(blab);
jfrm.add(anslab);

ActionListener l = new ActionListener()
{
public void actionPerformed(ActionEvent
                                ae)
{
System.out.println("Action event from
a text field");
}
};
ajtf.addActionListener(l);
bjtf.addActionListener(l);

button.addActionListener(new ActionListener
(){
public void actionPerformed(ActionEvent
ae){
try{
int a = Integer.parseInt(ajtf.getText());
int b = Integer.parseInt(bjtf.getText());
int ans = a/b;
```

```
alab.setText("\nA = "+a);
blab.setText("\nB = "+b);
anslab.setText("\nAns = "+ans);
}
catch(NumberFormatException e){
 alab.setText("");
 blab.setText("");
 anslab.setText("");
 err.setText("Enter Only Integers!");
}
catch(ArithmeticException e){
 alab.setText("");
 blab.setText("");
 anslab.setText("");
 err.setText("B should be NON zero!");
}
}
});
 jfrm.setVisible(true);
}
public static void main(String args[]){
 SwingUtilities.invokeLater(new Runnable(){
 public void run(){
  new SwingDemo();
});}
}
```

Output:

Enter the divider and divident

20 | 4

Calculate A = 20 B = 4 Ans = 5

Enter the divider and dividend:

10		0

Calculate

B should be NON Zero!

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AWT functions:

1. Jframe: It is a class in Java that is part of the swing library, which is used for creating graphical users interfaces in Java application.

2. setSize(): setSize() is a method which is used with components such as Jframe Jpanel etc to set their size.

3. setLayout(): It is a method which is used to set the layout manager for a container, such as Jfram or any other container component.

4. Jlabel: It is a class which is used to display non-editable text or image on GUI

5. setdefaultCloseOperation: It is a method in Java swing used to specify the default close operation for a 'Jframe'.

6. JTextfield : Class in Java Swing provides a text input field in a GUI. It allows users to enter and edit single text line.

7. addActionListener : It is a method in Java Swing that is used to register an action for a component, eg. button that generates action events.

8. setText : It is a method used in Java Swing to set the text content of text based component.

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