Lab-9

Q 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, in 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 dividend and divisor");
        JTextField ajtf = new JTextField(8);
        JTextField bjtf = new JTextField(8);

        JButton button = new JButton("Calculate");

        JLabel emp = new JLabel();
        JLabel alab = new JLabel();
        JLabel blab = new JLabel();
        JLabel anslab = new JLabel();

        jfrm.add(emp);
        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 ev
                System.out.println("Action ev
from a text field");
        }
};

ajtf.addActionListener(l);
bjtf.addActionListener(l);

button.addActionListener(new ActionListener(){
    public void actionPerformed(ActionEvent evt)
        try{
            int a=Integer.parseInt(ajtf.getTex
            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 Integer
        }
```

```
        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 dividend

10 | 2

Calculate A=10, B=0 Ans=5

JFrame → Represents the main window of the application.

JLabel → Used to display text labels on the GUI

JFrame

jfrm.setSize() → It sets the size of the JFrame. Parameters passed here specifies the width and height of the JFrame.

jfrm.setLayout() → It sets the layout manager for the JFrame. It maintains a natural flow of components based on the order they are added to the container

jfrm.setDefaultCloseOperation() → It is a method used to specify what should happen when the user closes the window

jfrm.add() → It is used to add various swing components to the JFrame

jlab.setText() → It is used to set the text content of a JLabel component.

jfrm.setVisible(true); → It ~~make~~ is used to show or hide the frame.

SwingUtilities.invokeLater() → It is a method using in swing applications to ensure that GUI related tasks are executed on EDT, which is responsible for handling user interface events and updates

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