Lab Prog
Week = 10

19/02/2024

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

class SwingDemo {
    SwingDemo() {
JFrame jfrm = new JFrame("Divide 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 blob = 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(blob);
jfrm.add(anslab);
```

```
ActionListener l = new ActionListener() {
    Public void actionPerformed (ActionEvent e)
    {
     System.out.println ("Action Event from a
    text field");
    }
};
ajtf.addActionListener(l);
bjtf.addActionListener(l);

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

    alab.setText("In A =" + a);
    blab.setText("In B =" + b);
    anslab.setText("In Ans =" + 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");
```

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

output:

Enter the divider and dividend:

25

5

25

5

calculate

A = 25 B = 5 Ans = 5

Report

① JFrame

JFrame is a class defined in javax.swing Package that represents a window or a frame in a GUI application. JFrame serves as a Container to hold various GUI components such as buttons, textfields labels etc

SetSize: This method is used to set size of frame in pixels.
(int width, int height)

SetLayout: This method is used to set the layout manager for the frame, which determines how components are arranged with frame.

SetLayout CloseOperation: This method sets the layout operation that will be performed when the user closes the frame, such as Exiting the application (or) hiding the frame.

JLabel: is a component used to display text (or) an image on GUI
it can be instantiated with 'JLabel(String text)'

getText(): This method retrieves the text entered by user in text field

Adding components to JFrame

'ActionListener' is an interface used to handle events triggered by user actions, such as clicking a button.

'addActionListener(ActionListener listener)': This method adds an ActionListener to component.

'SetText()' : Method is commonly used to text content of various components in Graphical User Interface (GUI) Programming, Particularly with components like JLabel, JTextField, Javax.Swing.text.JTextComponent and javax.Swing.JLabel.