Week 9 20/2/24

1) Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the text field, Num1 & 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

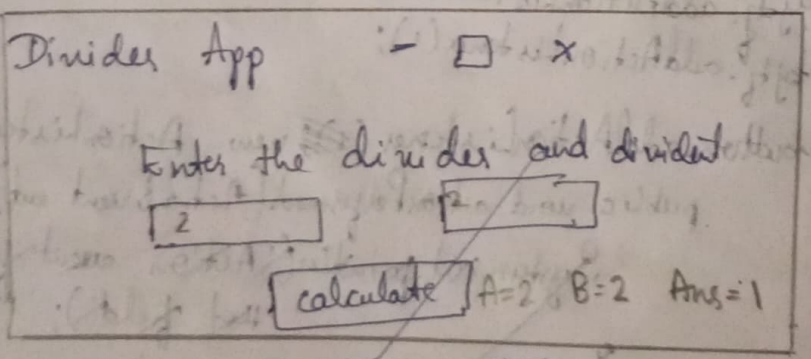
→

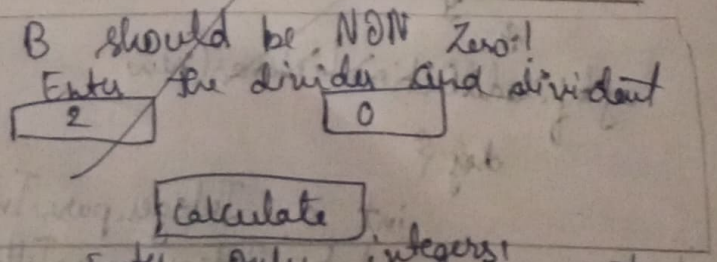
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
class SwingDemo{
    SwingDemo(){
    JFrame jfrm = new JFrame("Divider App");
    jfrm.setSize(275,150);
    jfrm.setLayout(new FlowLayout());
    jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    JLabel jlab = new JLabel("Enter the divider & dividend:");

    JTextFied ajtf = new JTextField(8);
    JTextFied bjtf = new JTextField(8);

    JButton button = new JButton("Calculate");
```

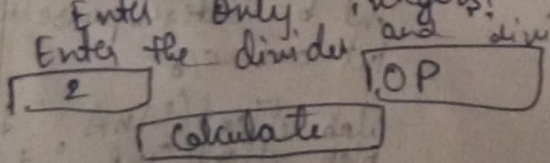
```
JLabel err = new JLabel();
JLabel alab = new JLabel();
JLabel blab = new JLabel();
JLabel anslab = new JLabel();

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 ActionListeners()
{
public void actionPerformed(ActionEvent ext)
{
System.out.println("Action event from a text field");
}
};
ajtf.addActionListener(l);
bjtf.addActionListener(l);
button.addActionListener(new ActionListeners(){
    public void actionPerformed(ActionEvent ext){
        System.out.println("Action event from a
                            text field");
    }
});
ajtf.addActionListener(new
    try{
        int a = Integer.parseInt(ajtf.getText());
        int b = Integer.parseInt(bjtf.getInt());
        int ans = a/b;
        alab.setText("InA = " + a);
        blab.setText("InB = " + b);
        anslab.setText("In Ans = "+ans);
```

```
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:







1) JFrame: 'JFrame' is a class defined in the 'javax.swing' package. It represents a window with decorations such as a title, borders, and buttons for closing, minimizing, and maximizing. It serves as a fundamental component for building graphical user interfaces (GUIs) in Java Swing.

2) setSize(int width, int height):
This method is used to set the size of a component, such as a 'JFrame', in pixels. It takes two parameters: the width & height of the component in pixels.

3) setLayout(LayoutManager layout):
This method sets the layout manager for a container, such as a 'JFrame'. A layout manager is responsible for arranging the components within the container. The 'setLayout' method allows you to specify which layout manager to use. Common layout managers include 'FlowLayout', 'BorderLayout', 'GridLayout', and 'GridBagLayout'.

4) setDefaultCloseOperation(int operation):
This method sets the default operation that will be performed when the user closes the window using the close button. The 'operation' parameter specifies the action to take. Common operations include 'EXIT_ON_CLOSE', 'DISPOSE_ON_CLOSE', 'HIDE_ON_CLOSE', and 'DO_NOTHING_ON_CLOSE'.

5) JLabel: 'JLabel' is a class in the 'javax.swing' package that represents a display area for a short text string or an image, or both. It is commonly used to display text or icons on a GUI.

6) JTextField: 'JTextField' is a class in the 'javax.swing' package that allows editing of a single line of text. It provides a text input box where the users can enter or edit text.

7) addActionListener(ActionListener listener):
This method adds an action listener to a component. An action listener is notified whenever the component generates an action event, such as when a button is pressed. By adding an action listener, you can define the actions to be performed in response to such events.

8) setText(String text):
This method sets the text of a 'JLabel', 'JTextField' or similar text-based component to the specified string 'text'. It updates the content displayed by the component to the new text provided.

Divider App

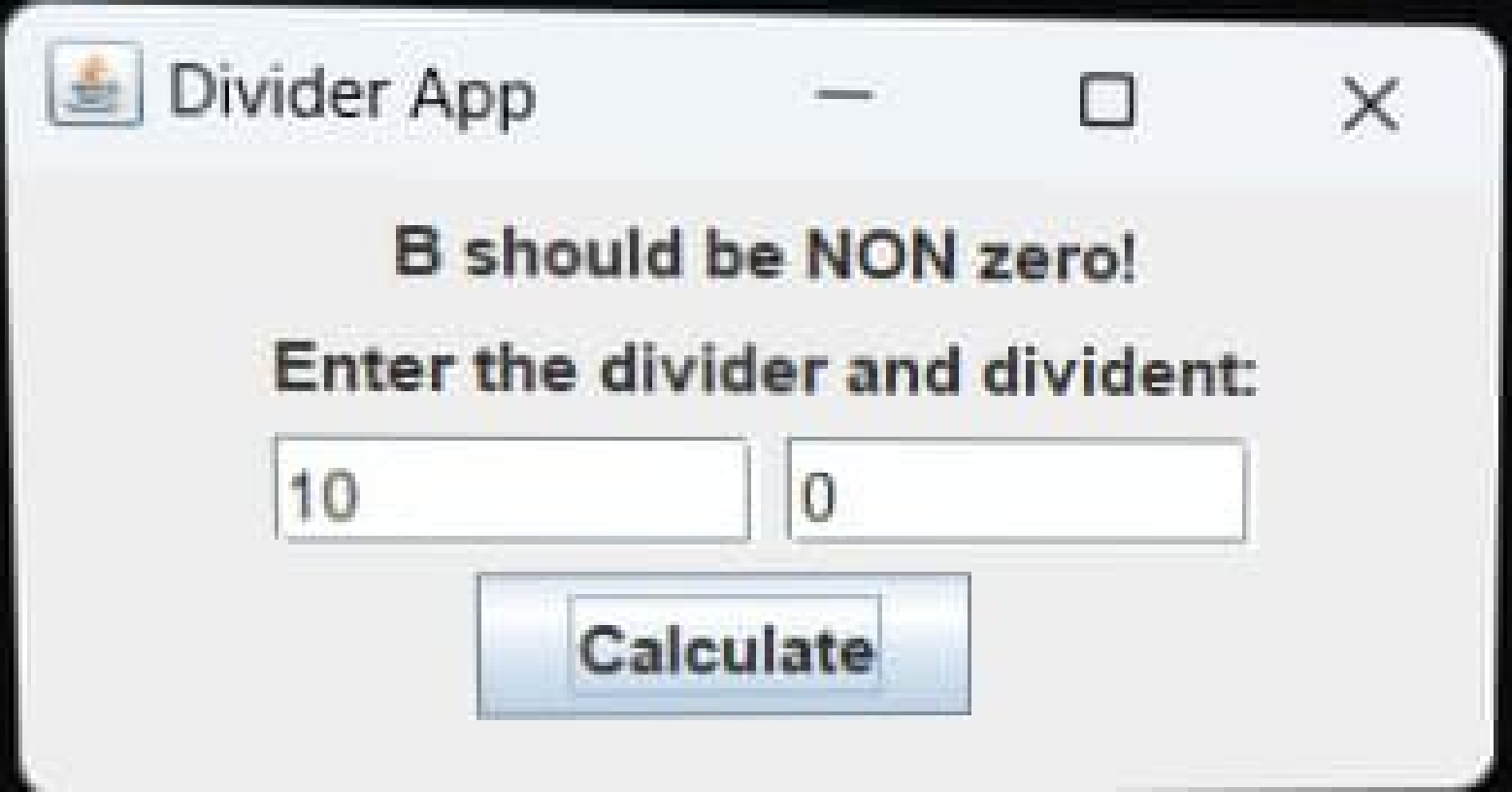
Enter the divider and divident:

10

2

Calculate

A = 10 B = 2 Ans = 5


Divider App
B should be NON zero!
Enter the divider and divident:
10
0
Calculate


Divider App
Enter Only Integers!
Enter the divider and divident:
10
0lk
Calculate