LAB-9

Q) Write a program that creates a user interface to perform integer division. 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 was zero, the program would throw an ArithmeticException. Display the exception in a message dialog box.

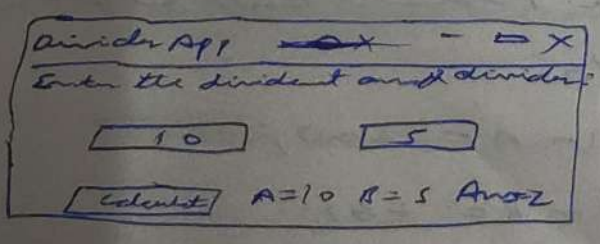
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

class SwingDemo {

    SwingDemo() {
        // create jframe container
        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 ansLbl = 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(ansLbl);

ActionListener I = new ActionListener() {
    public void actionPerformed(ActionEvent ae) {
        System.out.println("Action event from a
                            text field");
    }
};
ajtf.addActionListener(I);
bjtf.addActionListener(I);
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("\n A =" + a);
            blab.setText("\n B =" + b);
            ansLbl.setText("\n Ans =" + ans);
        }
```

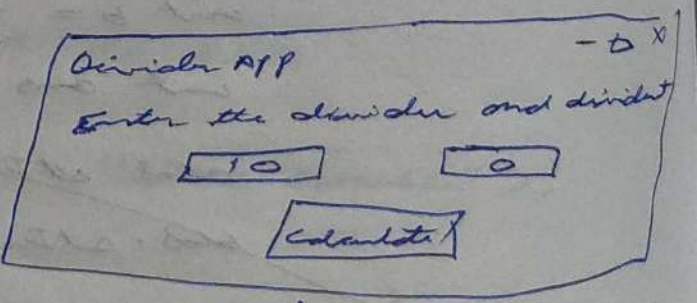
```
catch (NumberFormatException e) {
        ans.setText("");
        res.setText("Enter only Integers!");
    }
    catch (ArithmeticException e) {
        ans.setText("");
        res.setText("B should be NON zero");
    }
  }
});
jfrm.setVisible(true);
}

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

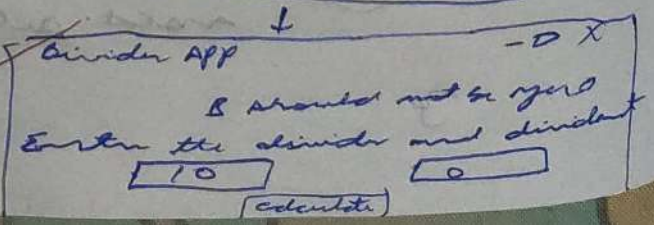
output :→

(a)

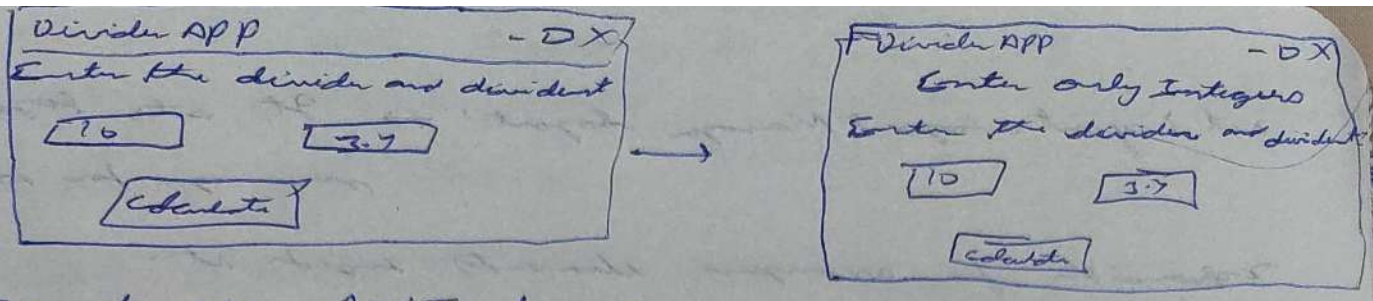


(b)





(c)



Report on AWT functions :→

JFrame :→ Represent main window of application

JLabel :→ Used to display text labels on GUI

add() :→ This is used to add a GUI component (button, label, text field) to a container (JFrame).

setText(text) :→ It is used to set the text of text based component (such as label) to specified string.

getText() :→ It retrieves text from text based component it represent string representing current text.

addActionListener(ActionListener listener) :→ This method add action listener to the component that generates action events (JButton). When action occurs action performed() method invoked.

setSize(int height, int width) :→ It is used to set size of component such as JFrame to specified height and width in pixels.

setLayout(layout ManagerLayout) → It sets layout manager for container responsible for arranging elements inside it.

setVisible(boolean visible) → It sets visibility of component when true component and content becomes visible on screen and hidden when set to false.

20.02.24