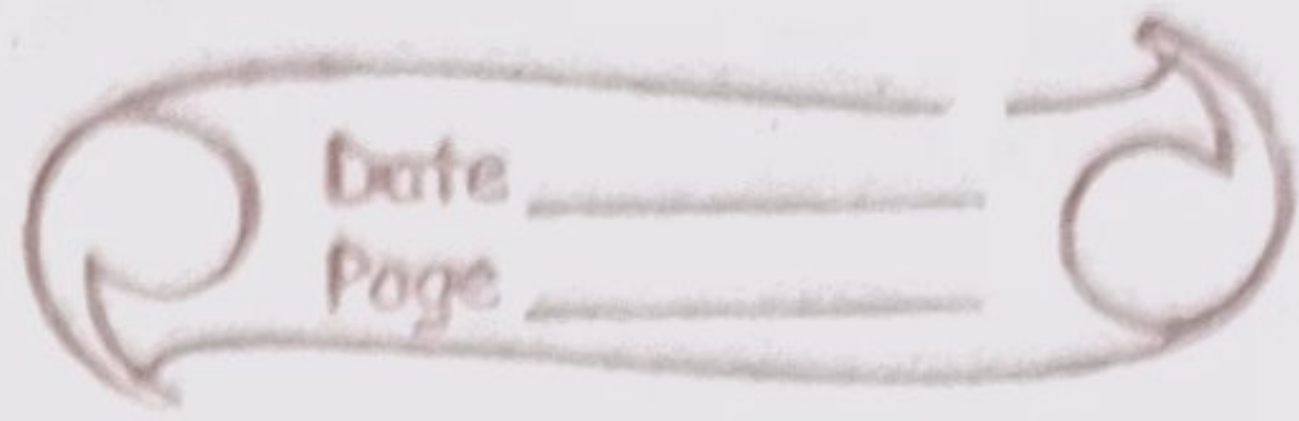


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LAB-9



Qn: Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields, Num1 & Num2. The division of Num1 & 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(aJf);  
jfrm.add(bJf);  
jfrm.add(Button);  
jfrm.add(alab);  
jfrm.add(blab);  
jfrm.add(ansLab);
```

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

```
aJf.addActionListener(l);  
bJf.addActionListener(l);
```

```
Button.addActionListener(new ActionListener() {  
    public void actionPerformed(ActionEvent evt) {  
        try {  
            int a = Integer.parseInt(aJf.getText());  
            int b = Integer.parseInt(bJf.getText());  
            int ans = a/b;
```

```
alab.setText("\n A = " + a);
```



```
blab.setText("\n B = " + b);
anslab.setText("\n 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!");
```

```
}
```

```
}
```

```
});
```

```
{ ifrm.setVisible(true);
```

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

```
}
```

```
});
```

```
}
```

```
}
```


Output: NAME: SHIVARAJ K PUSARI
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Enter the divider and dividend:

20

2

Calculate

A=20

B=2

Ans=10

* Functions & definitions:

1) JFrame: The javax.swing.JFrame class is a type of container which inherits the java.awt.class. JFrame works like the main window where components like labels, buttons, textfields are added to create a GUI.

2) setSize(): Sets the size of Dimension object to the specified width & height. This method is included for completeness, to parallel the getSize method of component.

3) setLayout(): After a container has been created, you can set its layout manager using setLayout method.

4) setDefaultCloseOperation(): This method is used to specify one of several options for close button.

77 Jlabel : The object of Jlabel class is a component for placing text in a container. It is used to display a single line of read only text.

68 ActionListener(): The Java ActionListener is notified whenever you click on the button or menu item. It is notified against ActionEvent.

77 Action Performed(): This method is invoked automatically whenever you click on registered component.

87 SwingUtilities : The SwingUtilities class has 2 important static methods, invoke and wait() and invokeLater() to use to put references to blocks of code onto event queue.

97 invokeLater(): It can be used to perform a task asynchronously in AWT Event dispatcher thread.

107 setVisible(): It is a method that has return type boolean. It sets the currently made attributes to be visible on the screen GUI application mainly Java Swing.

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