

Q) Lab program 9 :-

→ 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/num2 is displayed in the result field when the divide button is clicked. If num1 & num2 were not an integer the program would throw NumberFormatException. If num2 were zero, the program would throw an ArithmeticException display the exception in message dialog box.

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

```
class SwingingDemo {
```

```
    SwingDemo() {  
        JFrame jfrm = new JFrame("Divider App");  
        jfrm.setSize(250, 150);  
        jfrm.setLayout(new GridLayout());  
        jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
JLabel glab = new JLabel("Enter the divisor  
and dividend:");
```

~~```
JTextField afield = new JTextField(8);
JTextField bfield = new JTextField(8);
```~~~~```
JButton button = new JButton("calculate");
```~~

```
JLabel err = new JLabel();
```

```
JLabel acab = new JLabel();
```

```
JLabel blab = new JLabel();
```

JLabel ansLab = new JLabel();

```
jfm.add(aa);
jfm.add(jLab);
jfm.add(ajtt);
jfm.add(bjtt);
jfm.add(button);
jfm.add(alab);
jfm.add(blab);
jfm.add(ansLab);
```

ActionListener l = new ActionListener() {

public void

public void actionPerformed(ActionEvent evt) {

try {

int a = Integer.parseInt(ajtt.getText());

int b = Integer.parseInt(blab.getText());

if (b == 0) {

throw new ArithmeticException();

}

int ans = a/b;

alab.setText("\nA = " + a);

blab.setText("\nB = " + b);

ansLab.setText("\nAns = " + ans);

err.setText("");

} catch (NumberFormatException e) {

displayErrorUsage("Enters only integers");

} catch (ArithmaticException e) {

displayErrorUsage("B should be non-zero");

}

y

```
private void displayErrorMessage (String message) {
```

```
    alab.setText ("");
```

```
    blab.setText ("");
```

```
    clab.setText ("");
```

```
    er.setText (message);
```

```
}
```

```
y;
```

```
button.addActionListener (calculateListener);
```

```
ifm.setEditable (true);
```

```
}
```

```
public static void main (String args []) {
```

```
SwingUtilities.invokeLater (new Runnable () {
```

```
    public void run () {
```

```
        new SwingDemo ();
```

```
}
```

```
});
```

```
y
```

```
}
```

Output:-

Enter the divisor and dividend

6 3

Calculate A = 6 B = 3 Ans = 2

functions used:-

- 1) `JFrame` :- It is a top level container in Java swing that represents a window with a title bar, border and optional menu bar.
- 2) `setSize` :- It is used to set size of the frame
- 3) `setLayout` :- This line sets the layout manager for the frame to `FlowLayout`, which arranges components from left to right in a flow like manner
- 4) `add` :- This line adds the user label to the frame
- 5) `setText` :- This line sets the text of the 'A' label to display the value of 'A'
- 6) `setVisible` :- This line makes the frame visible
- 7) `invokeLater` :- This line schedules a job for the event-dispatcher
- 8) ~~executeLater~~ :- To perform task asynchronously in the ~~not~~ event dispatcher thread.

St
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