LAB PROGRAM 10

QUESTION: Write a program that creates a user interface to perform integer divisions. 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 were Zero, the program would throw an Arithmetic Exception Display the exception in a message dialog box.

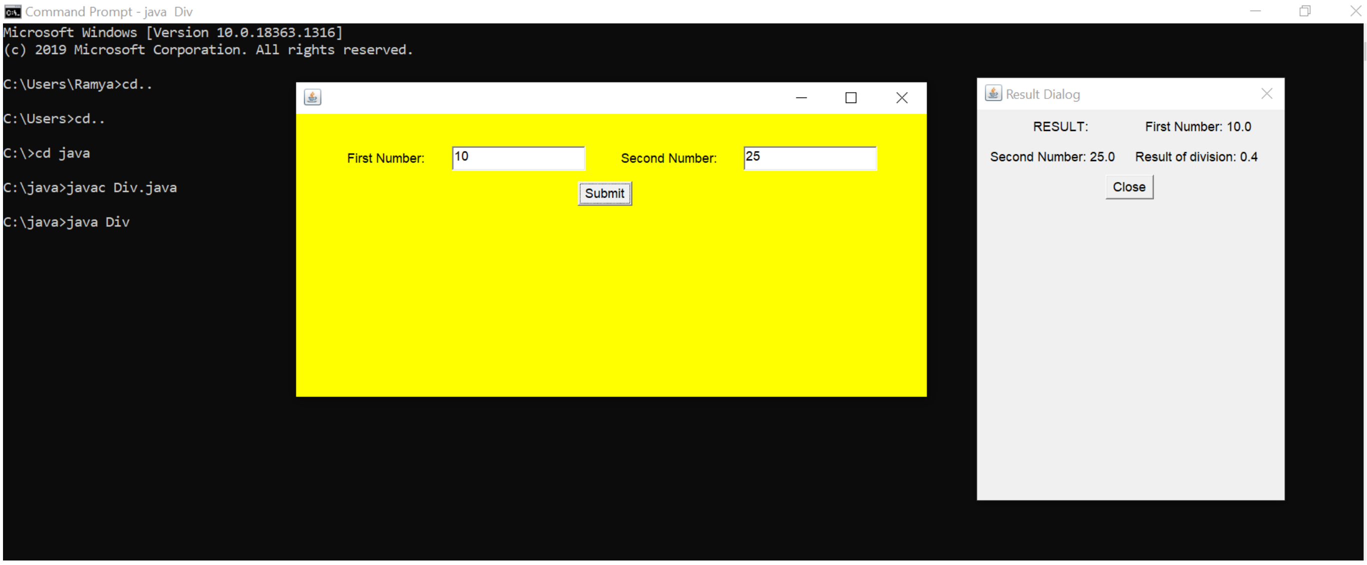
CODE:

```
import java.awt.*;

import java.awt.event.*;


public class Div extends Frame implements ActionListener{

        TextField t1,t2;

        String msg="";

        Button btn;

        Div(){

                Label l1 = new Label("First Number: ",Label.RIGHT);

                t1 = new TextField(10);

                Label l2 = new Label("Second Number: ",Label.RIGHT);


                t2 = new TextField(10);

                btn = new Button("Submit");

                //Label l = new Label("Updates:");

                l1.setBackground(Color.YELLOW);

                l2.setBackground(Color.YELLOW);

                //this.setResizable(false);

                this.add(l1);

                this.add(t1);

                this.add(l2);

                this.add(t2);

                //the following command will make sure that the input char is not visible to the user

                //(it has been added just to demonstrate). Can be used for passwords.

                //t1.setEchoChar('*');
        //t2.setEchoChar('#');
        this.add(btn,BorderLayout.CENTER);
        this.setVisible(true);
        this.setSize(600, 300);
        this.setLayout(new FlowLayout(FlowLayout.CENTER,20,10));
        //t1.addActionListener(this);
        btn.addActionListener(this);
        addWindowListener(new MyWindow());
        setBackground(Color.YELLOW);
        //System.out.println(BorderLayout.CENTER);
    }
    @Override
    public Insets getInsets() {
        return new Insets(50,10,10,20);

    }

    @Override
    public void actionPerformed(ActionEvent e) {

        String st1 = t1.getText();
        String st2 = t2.getText();
        double n1,n2;
        n1 = 0.0;
        n2 = 0.0;
        if(st1.equals("")||st2.equals("")) {

            msg="Text elements cannot be left blank!";
        }else{
            try {
                n1 = Double.parseDouble(st1);
```

```
                        n2 = Double.parseDouble(st2);
                        try {
                            double res = n1/n2;
                            msg = "Result of division: "+res;
                        }catch(ArithmeticException e1) {
                            msg = e1.toString();
                        }
                    }catch(NumberFormatException e2) {
                        msg = "Only numbers accepted as text elements";
                    }
                }
                new MyDialog(this,"Result Dialog",false,msg,n1,n2);
            }
            public static void main(String[] args) {
                new Div();
            }
}

class MyDialog extends Dialog implements ActionListener{

            public MyDialog(Frame owner, String title, boolean modal,String msg, double n1, double n2)
{
                super(owner, title, modal);
                this.setVisible(true);
                this.setSize(300, 400);
                this.setLayout(new FlowLayout());
                //System.out.println(owner);
                Label l1 = new Label("         RESULT:         ");
                //l1.setSize(300, 20);
                this.add(l1);
                this.add(new Label("First Number: "+n1));
```

```
		this.add(new Label("Second Number: "+n2));
		this.add(new Label(msg));

		Button b = new Button("Close");
		this.add(b);
		b.addActionListener(this);
		this.addWindowListener(new WindowAdapter() {
			public void windowClosing(WindowEvent e) {
				dispose();
			}
		});
	}

	@Override
	public void actionPerformed(ActionEvent e) {
		dispose();

	}


}

class MyWindow extends WindowAdapter{
	public void windowClosing(WindowEvent e) {
		System.exit(0);
	}
}
```

OUTPUT:



```
Microsoft Windows [Version 10.0.18363.1316]
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C:\Users\Ramya>cd..

C:\Users>cd..

C:\>cd java

C:\java>javac Div.java

C:\java>java Div
```
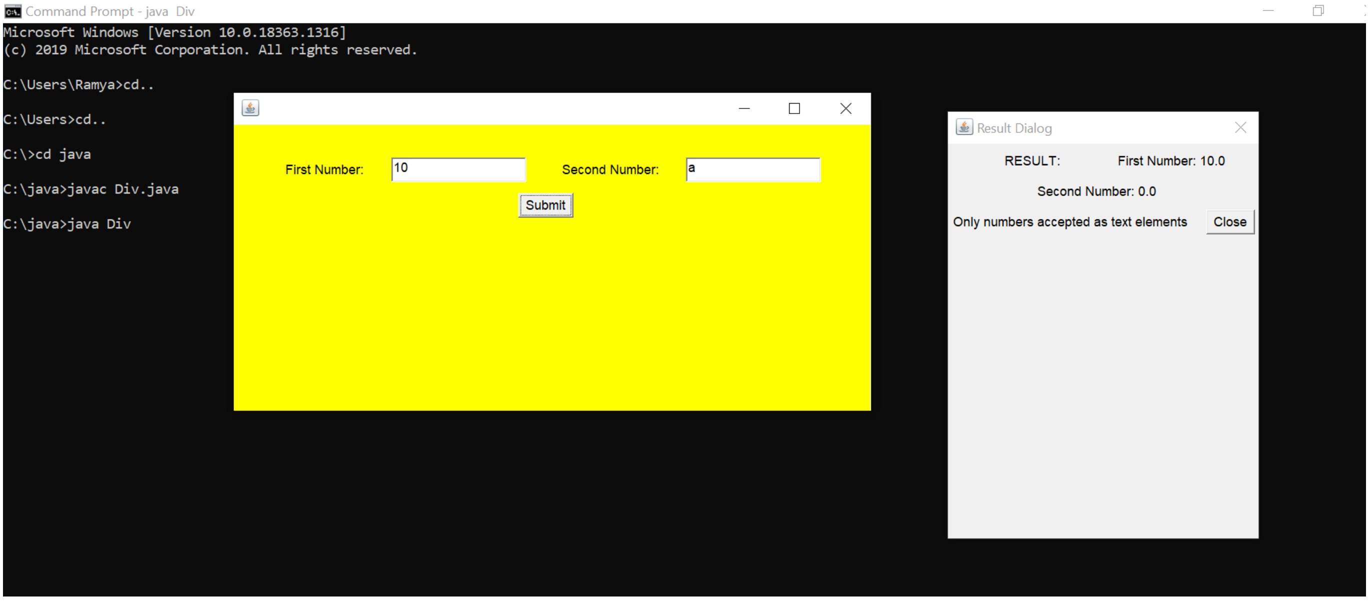

First Number: 10   Second Number: 25

RESULT: First Number: 10.0

Second Number: 25.0   Result of division: 0.4



```
Microsoft Windows [Version 10.0.18363.1316]
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C:\Users\Ramya>cd..

C:\Users>cd..

C:\>cd java

C:\java>javac Div.java

C:\java>java Div
```
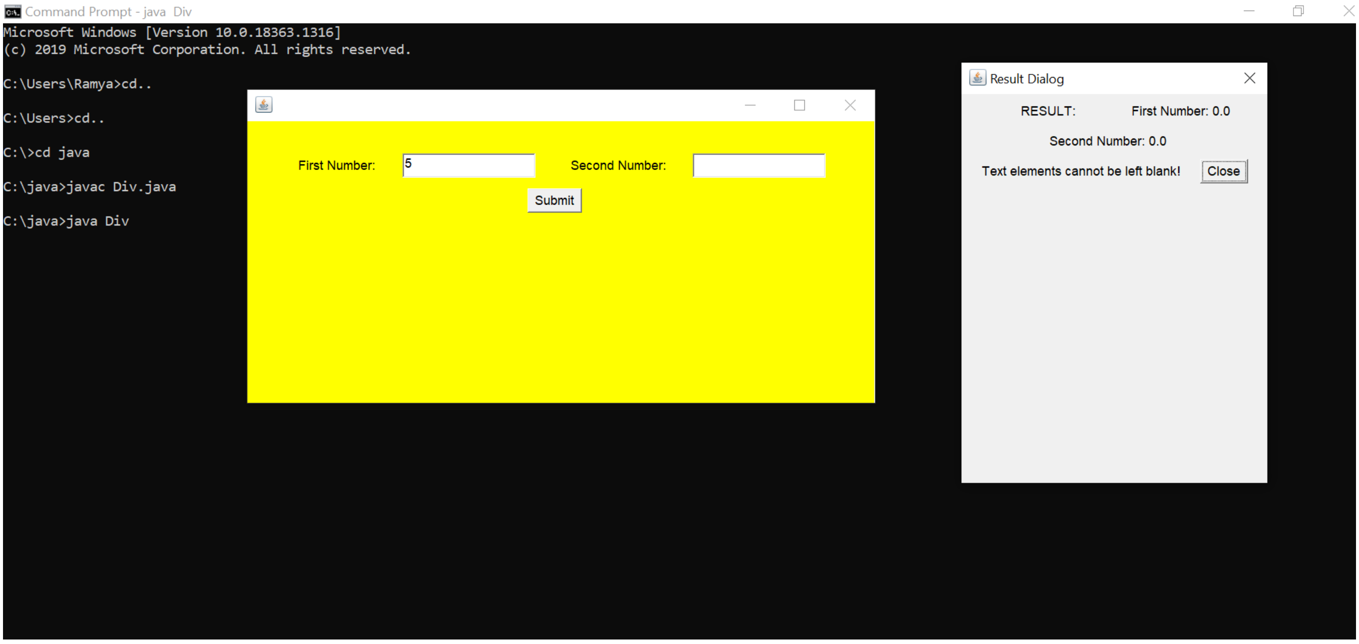

First Number: 10   Second Number: a

RESULT: First Number: 10.0

Second Number: 0.0

Only numbers accepted as text elements



```
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C:\Users\Ramya>cd..

C:\Users>cd..

C:\>cd java

C:\java>javac Div.java

C:\java>java Div
```

First Number: 5   Second Number:

RESULT: First Number: 0.0

Second Number: 0.0

Text elements cannot be left blank!