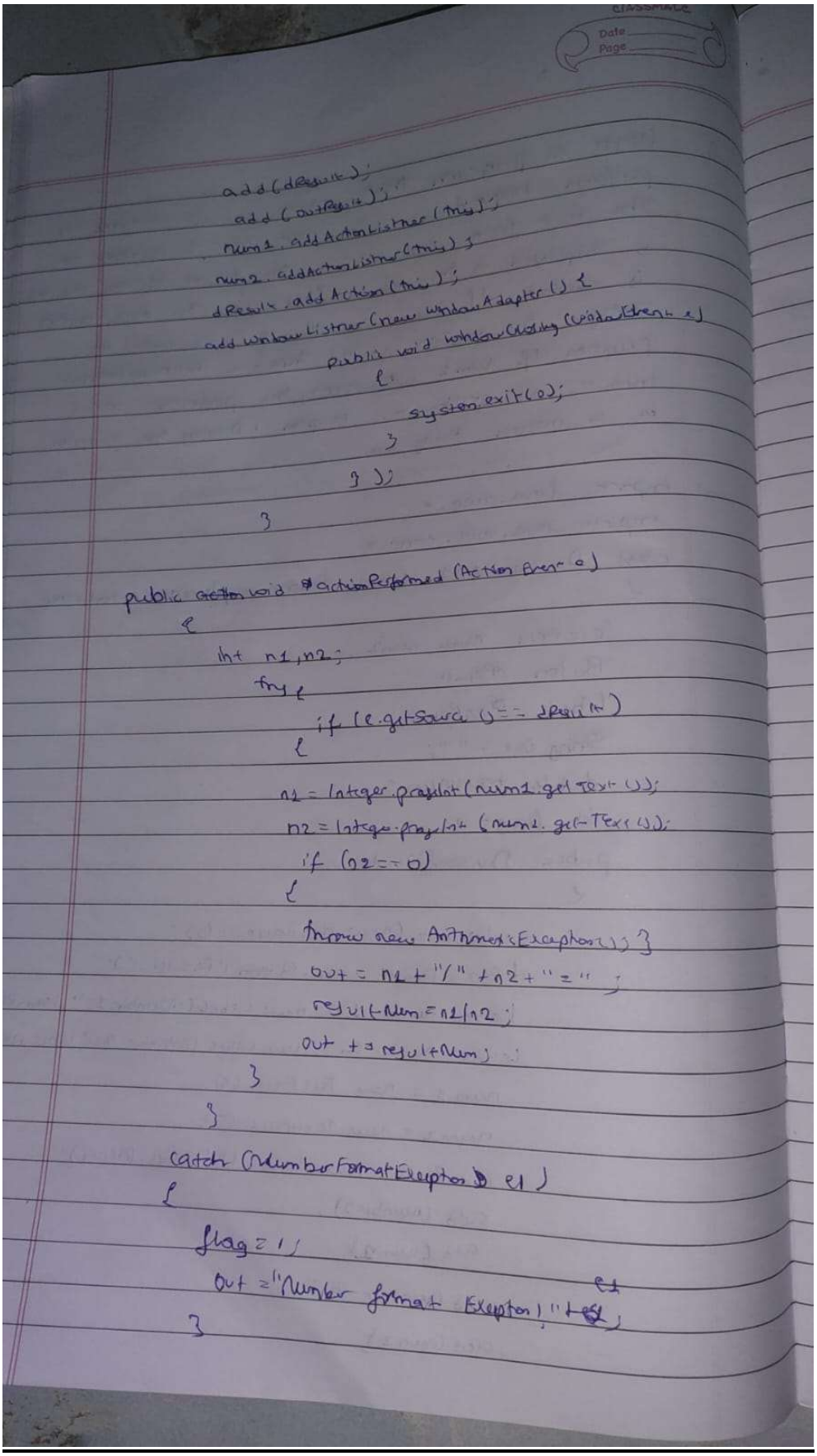
Program 9

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.

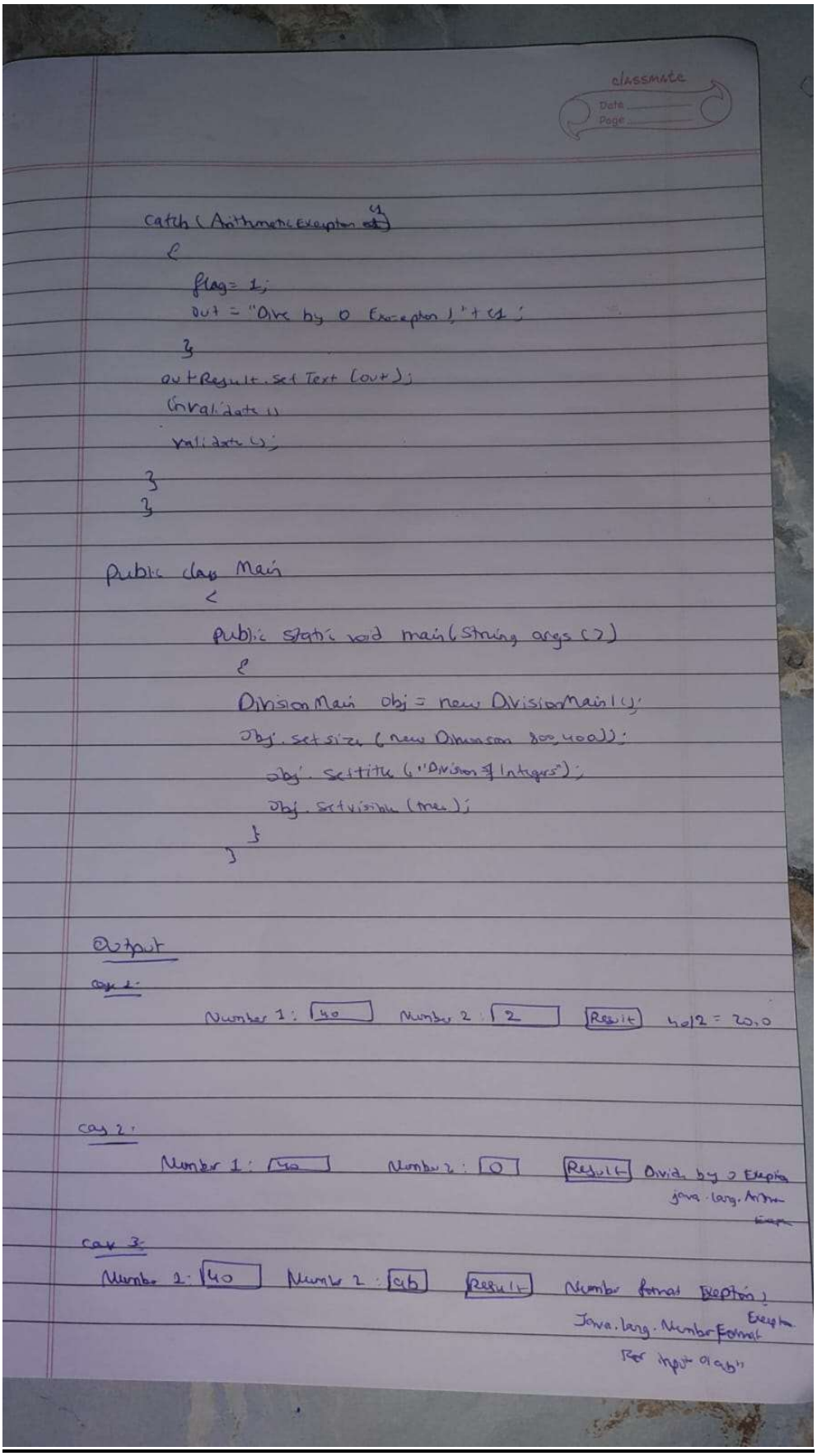
9 Write a program that creates a user interface to perform integer division. The user enters 2 numbers in the text fields N1 and N2, the division of N1 and N2 is displayed in the result field when the divide button is clicked. If Num1 and Num2 were not an integer, the program would throw a NumberFormat Exception. If Num2 were zero, the program would throw an arithmetic Exception. Display the exception in a message dialog box.

```
import java.awt.*;
import java.awt.event.*;
class DivisionMain1 extends Frame implements ActionListener
{
    TextField num1, num2;
    Button dResult;
    Label outResult;
    String out = "";
    double resultNum;
    int flag = 0;
    public DivisionMain1()
    {
        setLayout(new FlowLayout());
        dResult = new Button("Result:");
        Label number1 = new Label("Number 1:", Label.RIGHT);
        Label number2 = new Label("Number 2:", Label.RIGHT);
        num1 = new TextField(5);
        num2 = new TextField(5);
        outResult = new Label("", Label.RIGHT);
        add(number1);
        add(num1);
        add(number2);
        add(num2);
```



```
add(dResult);
add(outResult);
num1.addActionListner(this);
num2.addActionListner(this);
dResult.addAction(this);
addWindowListner(new WindowAdapter(){
public void windowClosing(WindowEvent e)
{
System.exit(0);
}
});
}

public void actionPerformed(ActionEvent e)
{
int n1,n2;
try{
if(e.getSource()==dResult)
{
n1=Integer.parseInt(num1.getText());
n2=Integer.parseInt(num2.getText());
if(n2==0)
{
throw new ArithmeticException();}
out=n1+"/"+n2+"=";
resultNum=n1/n2;
out+=resultNum;
}
}
catch(NumberFormatException e1)
{
flag=1;
out="Number format Exception!";
}
```



```
catch (ArithmeticException e)
{
    flag = 1;
    out = "Divide by 0 Exception!" + e1;
}
outResult.setText(out);
Invalidate();
validate();
}
}

public class Main
{
    public static void main(String args[])
    {
        DivisionMain obj = new DivisionMain();
        obj.setSize(new Dimension(300,400));
        obj.setTitle("Division of Integers");
        obj.setVisible(true);
    }
}
```

Output

case 1:

Number 1: [40] Number 2: [2] Result 40/2 = 20.0

case 2:

Number 1: [40] Number 2: [0] Result Divide by 0 Exception java.lang.Arithmetic Exception

case 3:

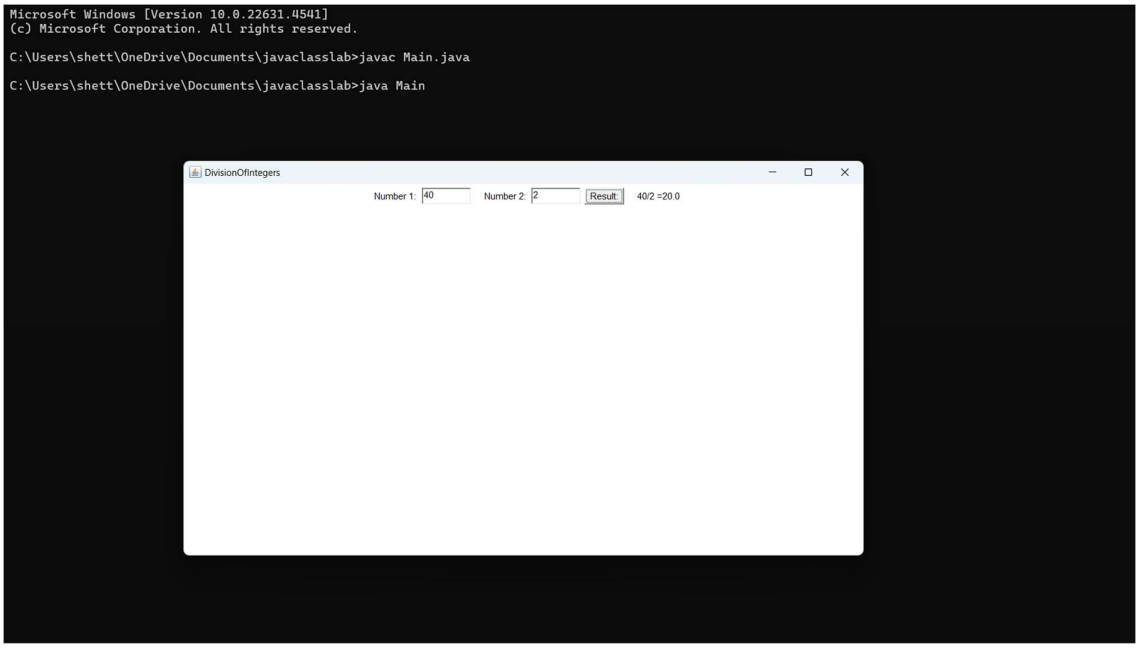
Number 1: [40] Number 2: [ab] Result Number format Exception! java.lang.NumberFormat Exception For input string "ab"

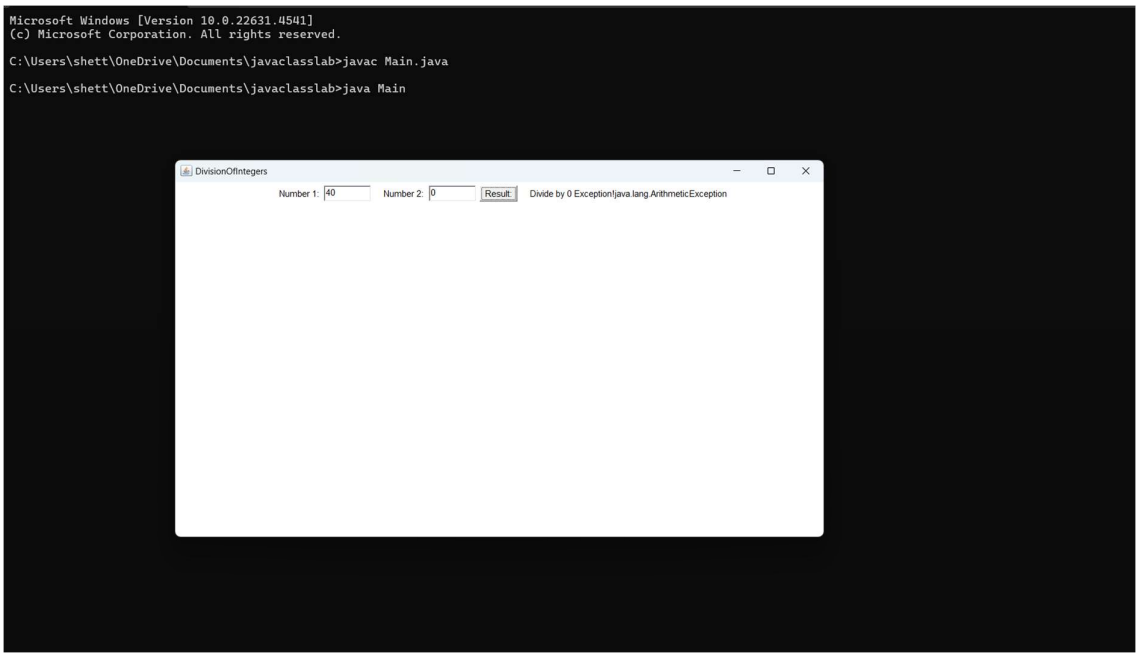
```
import java.awt.*;
import java.awt.event.*;
class DivisionMain1 extends Frame implements ActionListener
{
	TextField num1,num2;
	Button dResult;
	Label outResult;
	String out="";
	double resultNum;
	int flag=0;
	public DivisionMain1()
	{
		setLayout(new FlowLayout());
		dResult = new Button("Result:");
		Label number1 = new Label("Number 1:",Label.RIGHT);
		Label number2 = new Label("Number 2:",Label.RIGHT);
		num1=new TextField(5);
		num2=new TextField(5);
		outResult = new Label("",Label.RIGHT);
		add(number1);
		add(num1);
		add(number2);
		add(num2);
		add(dResult);
		add(outResult);
		num1.addActionListener(this);
		num2.addActionListener(this);
		dResult.addActionListener(this);
		addWindowListener(new WindowAdapter(){
			public void windowClosing(WindowEvent e)
			{
				System.exit(0);
			}
		});
	}
	public void actionPerformed(ActionEvent e)
	{
		int n1,n2;
		try
		{
			if (e.getSource() == dResult)
			{
				n1=Integer.parseInt(num1.getText());
				n2=Integer.parseInt(num2.getText());
				if(n2==0)
				{throw new ArithmeticException();}
				out=n1+"/"+n2+" ";
				resultNum=n1/n2;
				out+=resultNum;
			}
		}
		catch(NumberFormatException e1)
		{
```

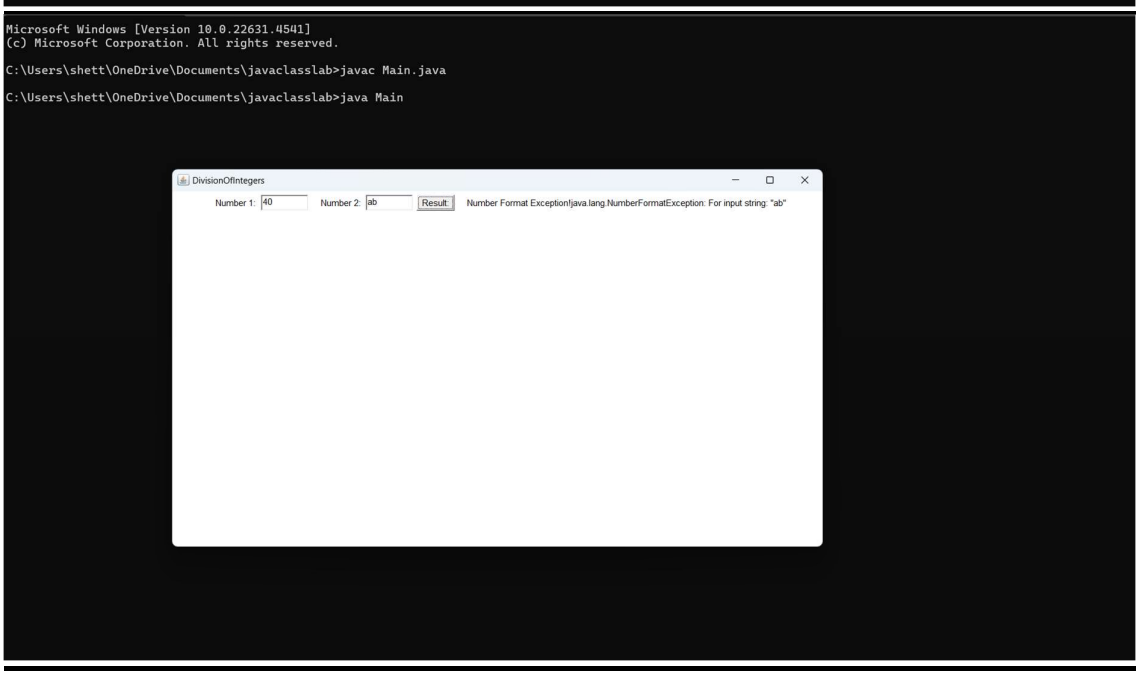
```
                flag=1;
                out="Number Format Exception!"+e1;
            }
            catch(ArithmeticException e1)
            {
                flag=1;
                out="Divide by 0 Exception!"+e1;
            }
            outResult.setText(out);
            invalidate();
            validate();
        }

}

public class Main
{
    public static void main(String args[])
    {
        DivisionMain1 obj=new DivisionMain1();
        obj.setSize(new Dimension(800,400));
        obj.setTitle("DivisionOfIntegers");
        obj.setVisible(true);
    }
}
```




Microsoft Windows [Version 10.0.22631.4541]
(c) Microsoft Corporation. All rights reserved.
C:\Users\shett\OneDrive\Documents\javaclasslab>javac Main.java
C:\Users\shett\OneDrive\Documents\javaclasslab>java Main
DivisionOfIntegers
Number 1: 40
Number 2: 0
Result:
Divide by 0 Exception!java.lang.ArithmeticException


Microsoft Windows [Version 10.0.22631.4541]
(c) Microsoft Corporation. All rights reserved.
C:\Users\shett\OneDrive\Documents\javaclasslab>javac Main.java
C:\Users\shett\OneDrive\Documents\javaclasslab>java Main
DivisionOfIntegers
Number 1: 40
Number 2: ab
Result:
Number Format Exception!java.lang.NumberFormatException: For input string: "ab"