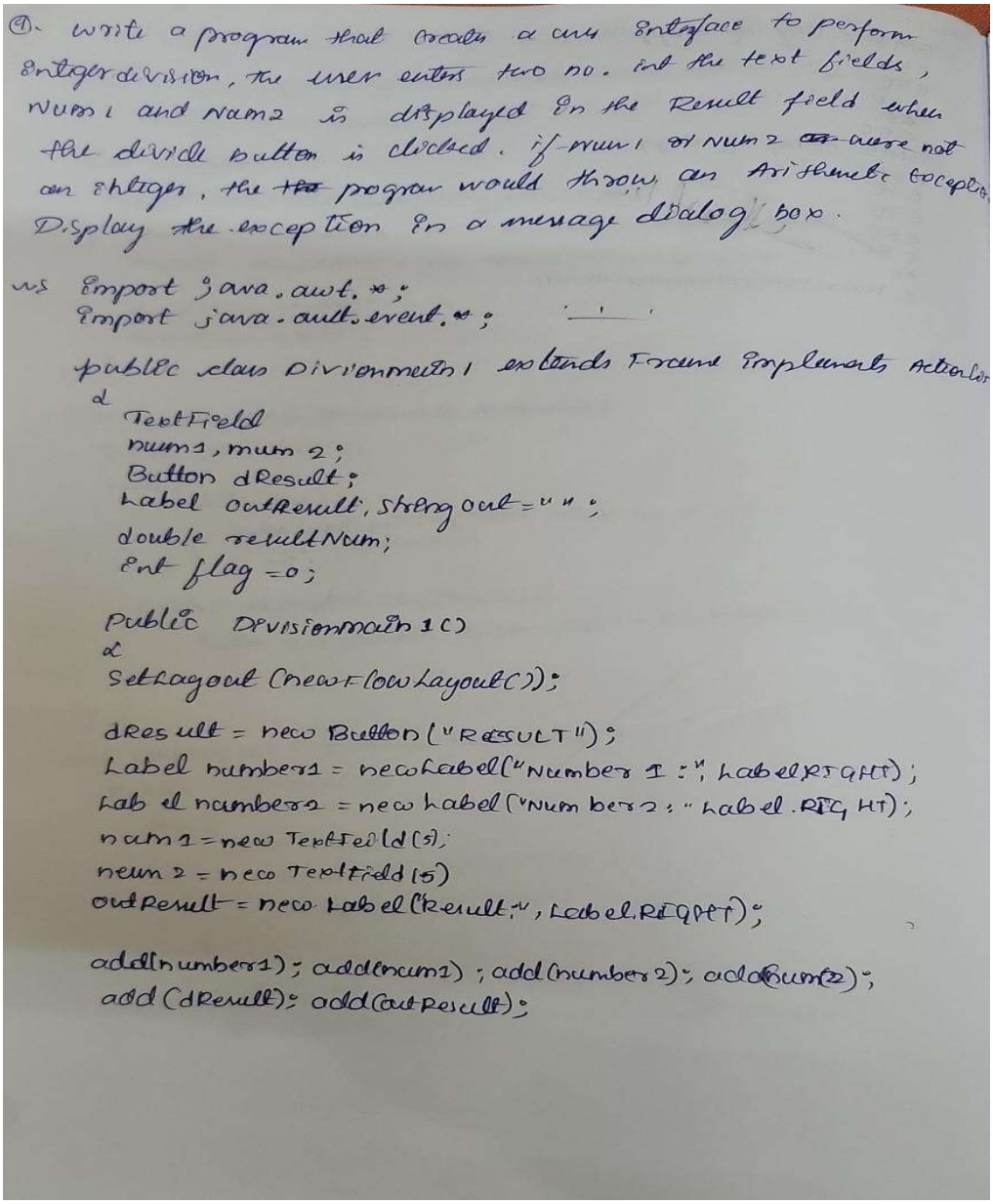
PROGRAM 9 :

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 dialogbox.

Observation :



```
num1.addActionListener(this); num2.addActionListener(new
windowAdapter()
{
public void windowClosing(WindowEvent we)
{ System.exit(0);
});
}
public void actionPerformed(ActionEvent we)
{ System.exit(0);
};
}
public void actionPerformed(ActionEvent ae)
{ int n1,n2; try
  { if(ae.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 += String.valueOf(resultNum);
      repaint();
    }
  }
  catch(NumberFormatException e1)
  { flag = 1;
    out = "Number Format exception!" + e1;
    repaint();
  }
  catch(ArithmeticException e2)
  { flag = 1;
    out = "Divide by 0 exception!" + e2;
    repaint();
  }
}
```

```
Public void paint(Graphics g)
{
 if(flag==0)
 g.drawString(outResult.getX()+outResult.getCoordinate(),outResult.
  getY()+outResult.
   getHeight()-8);
   else g.drawString(out,1000,200);
   flag=0;
 }
 Public static void main(String[] args)
 {
  DivisionMain2 dm=new DivisionMain2();
  dm.setSize(new Dimension(800,400));
  dm.setTitle("Division Application");
  dm.setVisible(true);
 }
}
```

Source Code :

```
import java.awt.*;  import java.awt.event.*; public 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("Result:",   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 we)
          {
             System.exit(0);
          }
       });
        setTitle("Division Calculator");         setSize(300,
200);          setVisible(true);
   }      public void actionPerformed(ActionEvent ae)
```

```
    {       int n1, n2;         try       {           if
(ae.getSource() == dResult)
          {               n1 = Integer.parseInt(num1.getText());                n2 =
Integer.parseInt(num2.getText());
              if (n2 == 0)
              {                   throw new ArithmeticException("Cannot divide by zero!");               }

             out = n1 + " / " + n2 + " = ";               resultNum =
(double) n1 / n2;                out += String.valueOf(resultNum);               repaint();
          }       }       catch(NumberFormatException e1)
       {
          flag = 1;            out = "Number Format Exception! " + e1;             repaint();
       }
       catch(ArithmeticException e2)
       {           flag = 1;            out = "Divide by 0 Exception! " + e2;
repaint();
       }
    }
    public void paint(Graphics g)
    {        if(flag
== 0)
       {
          g.drawString(out, outResult.getX() + outResult.getWidth(), outResult.getY() +
outResult.getHeight() - 8);
       }       else
{
          g.drawString(out, 100, 200);             flag = 0;
}
    }
```

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

```
        DivisionMain1  dm=new  DivisionMain1();                dm.setSize(new  Dimension(800,400));
dm.setTitle("DivisionOfIntegers");          dm.setVisible(true);
    }
}
```

Output: