Lab 9

Write a program that creates a user interface to perform integer divisions.

```
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);
    }
});
}
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 Excepteai! "+e2;
    repaint();
}
}
public void paint(Graphics g)
{
    if(flag==0)
    g.drawString(out, outResult.getX() + outResult.
    getWidth() / outResult.getY() + outResult.get
    Height() - 8);
    else
    g.drawString(out, 100, 200);
    flag=0;
}
public static void main (Steing[] args)
{
    DivisionMain1 dm = new DivisionMain1();
```

```
        dm.setSize(new Dimension(800,400));
        dm.setTitle("Division Of Integers");
        dm.setVisible(true);
    }
}
```

output :

Number 1 : 6 Number 2 : 2

Result 6 2 3-0

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1) addActionListener (object_name)

- callback mechanism when any action is perfam
- method of ActionListener interface

2) addWindowListener ( )

- it used to process window events
- it adds the specified window listener to receive window events

3) getText ( )

- function to get text input from the user

4) repaint ( )

- an asynchronous method of applet class.

5) drawString()

- takes instance of String class as parameter containing the text to be draw & two integer values specifying the coordinates where text should start.

6) ~~getHeight(), getWidth()~~ setSize()

- Sets the size of the current Dimension object to the specified width & height.

7) setLayout()

- method that allows to set the layout of the container

8) JFrame

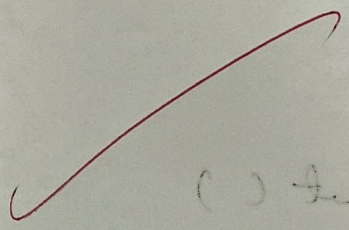
- JFrame is a class in java that consists of methods for setting size or visibility

9) JLabel

↳ JLabel instance with the specified text, image, and horizontal alignment.

10) setVisible()

- method makes the Frame appear on the screen.



20/2/24