Port City International University

Excellence in Higher Education

UGC & Govt. Approved University at Khulshi in Chittagong

Lab Report

Course Code: CSE 212

Course Title: Object Oriented Programming Sessoinal

Submitted To	Submitted By
Name of Lecturer: MD. MUHTADIR RAHMAN	**Name of student:** Jijanur Rahman
	Student ID: CSE 02107076
Department: CSE	**Program:** B.sc in CSE
	Batch: 21(B1)
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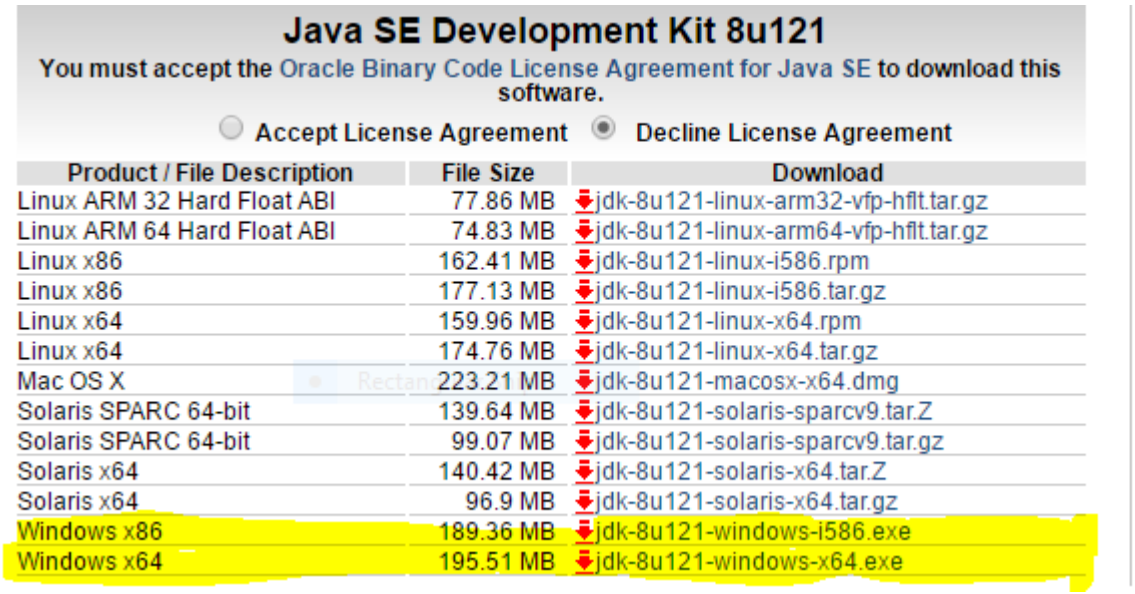
INDEX

Problem Name : Java Environment Setup.	
Problem No : 01	**Page No : 01**

Steps for setting the environment in Windows operation system are as follows:

Step 1: Java8 JDK is available at Download Java 8. Click the second last link for Windows(32 bit) and the last link for Windows(64 bit) as highlighted below.



Java SE Development Kit 8u121

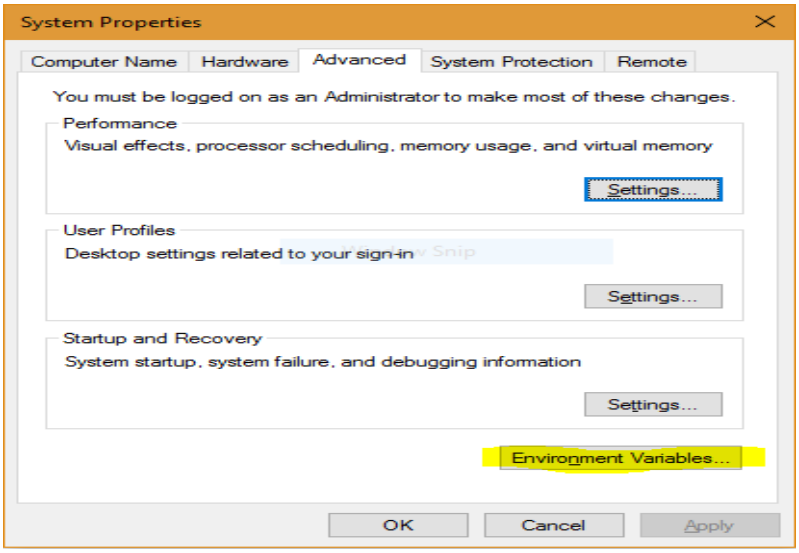
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

○ Accept License Agreement ◉ Decline License Agreement

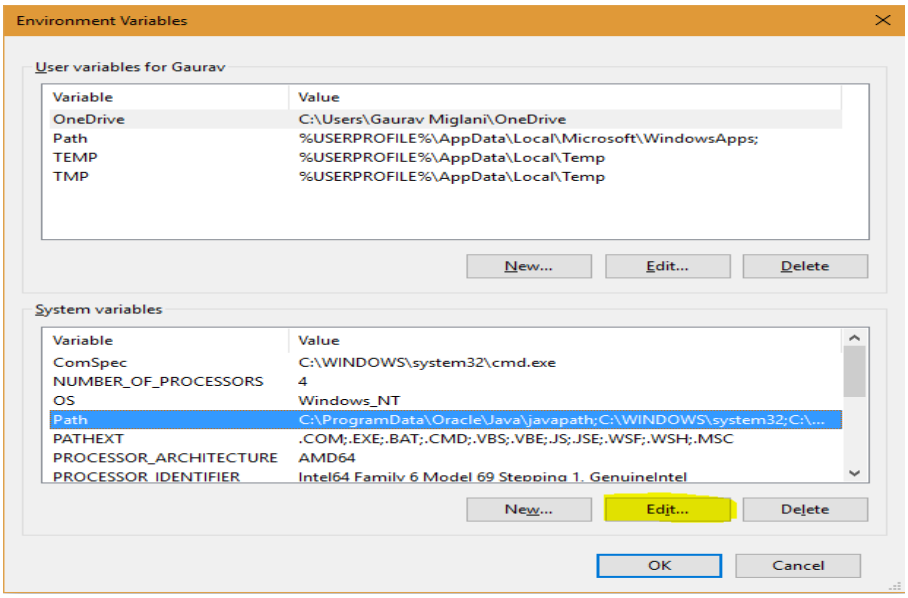
Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.86 MB	jdk-8u121-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.83 MB	jdk-8u121-linux-arm64-vfp-hflt.tar.gz
Linux x86	162.41 MB	jdk-8u121-linux-i586.rpm
Linux x86	177.13 MB	jdk-8u121-linux-i586.tar.gz
Linux x64	159.96 MB	jdk-8u121-linux-x64.rpm
Linux x64	174.76 MB	jdk-8u121-linux-x64.tar.gz
Mac OS X	223.21 MB	jdk-8u121-macosx-x64.dmg
Solaris SPARC 64-bit	139.64 MB	jdk-8u121-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.07 MB	jdk-8u121-solaris-sparcv9.tar.gz
Solaris x64	140.42 MB	jdk-8u121-solaris-x64.tar.Z
Solaris x64	96.9 MB	jdk-8u121-solaris-x64.tar.gz
Windows x86	189.36 MB	jdk-8u121-windows-i586.exe
Windows x64	195.51 MB	jdk-8u121-windows-x64.exe

Step 2: After download, run the *.exe* file and follow the instructions to install Java on your machine. Once you installed Java on your machine, you have to set up the environment variable.

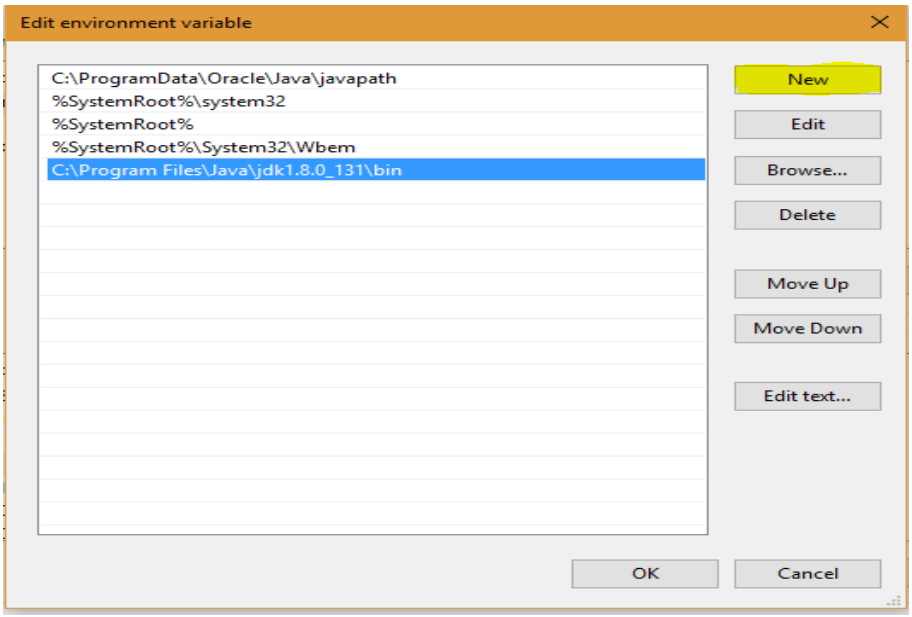
Step 3: Go to **Control Panel -> System and Security -> System.** Under the Advanced System Setting option click on **Environment Variables** as highlighted below.



Step 4: Now, you have to alter the “Path” variable under System variables so that it also contains the path to the Java environment. Select the “Path” variable and click on the Edit button as highlighted below.



Step 5: You will see a list of different paths, click on the New button, and then add the path where java is installed. By default, java is installed in “C:\Program Files\Java\jdk\bin” folder OR “C:\Program Files(x86)\Java\jdk\bin”. In case, you have installed java at any other location, then add that path.



Step 6: Click on OK, Save the settings, and you are done !! Now to check whether the installation is done correctly, open the command prompt and type *javac -version*. You will see that java is running on your machine.

Java Code:

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package calculator.v2;


/**
 *
 * @author Jijanur Rahman
 */
public class mainframe extends javax.swing.JFrame {
double firstnum;
double secondnum;
double result;
String operations;



  /**
   * Creates new form mainframe
   */
  public mainframe() {
     initComponents();
  }
```

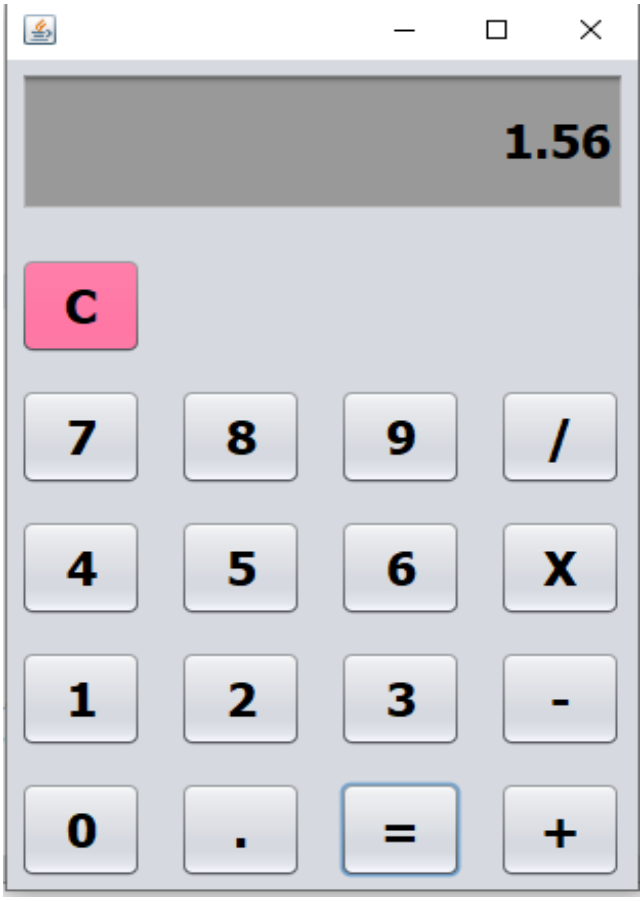
```
/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    display = new javax.swing.JTextField();
    jbtn0 = new javax.swing.JButton();
    jbtn1 = new javax.swing.JButton();
    jbtn2 = new javax.swing.JButton();
    jbtn3 = new javax.swing.JButton();
    jbtn4 = new javax.swing.JButton();
    jbtn5 = new javax.swing.JButton();
    jbtn6 = new javax.swing.JButton();
    jbtn7 = new javax.swing.JButton();
    jbtn8 = new javax.swing.JButton();
    jbtn9 = new javax.swing.JButton();
    jbtn10 = new javax.swing.JButton();
    jbtn11 = new javax.swing.JButton();
    jbtn12 = new javax.swing.JButton();
    jbtn13 = new javax.swing.JButton();
    jbtn14 = new javax.swing.JButton();
    jbtn15 = new javax.swing.JButton();
    jbtn16 = new javax.swing.JButton();
```

```
    );
}

private void jbtn13ActionPerformed(java.awt.event.ActionEvent evt) {

     firstnum = Double.parseDouble(display.getText());
    display.setText("");
    operations = "X";
}

private void jbtn15ActionPerformed(java.awt.event.ActionEvent evt) {

     firstnum = Double.parseDouble(display.getText());
    display.setText("");
    operations = "/";
}
private void jbtn5ActionPerformed(java.awt.event.ActionEvent evt) {

    String answer;
    secondnum = Double.parseDouble(display.getText());
    if(operations == "+")
    {
        result = firstnum + secondnum;
        answer = String.format("%.0f",result);
        display.setText(answer);
    }
    else if(operations == "-")
    {
```

```
        result = firstnum - secondnum;
        answer = String.format("%.0f",result);
        display.setText(answer);
    }
    else if(operations == "/")
/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new mainframe().setVisible(true);
        }
    });
}
// Variables declaration - do not modify
private javax.swing.JTextField display;
private javax.swing.JButton jbtn0;
private javax.swing.JButton jbtn1;
private javax.swing.JButton jbtn10;
private javax.swing.JButton jbtn11;
private javax.swing.JButton jbtn12;
private javax.swing.JButton jbtn13;
private javax.swing.JButton jbtn14;
private javax.swing.JButton jbtn15;
private javax.swing.JButton jbtn16;
```

```
    private javax.swing.JButton jbtn2;
    private javax.swing.JButton jbtn3;
    private javax.swing.JButton jbtn4;
    private javax.swing.JButton jbtn5;
    private javax.swing.JButton jbtn6;
    private javax.swing.JButton jbtn7;
    private javax.swing.JButton jbtn8;
    private javax.swing.JButton jbtn9;
    // End of variables declaration
}
```

Output :

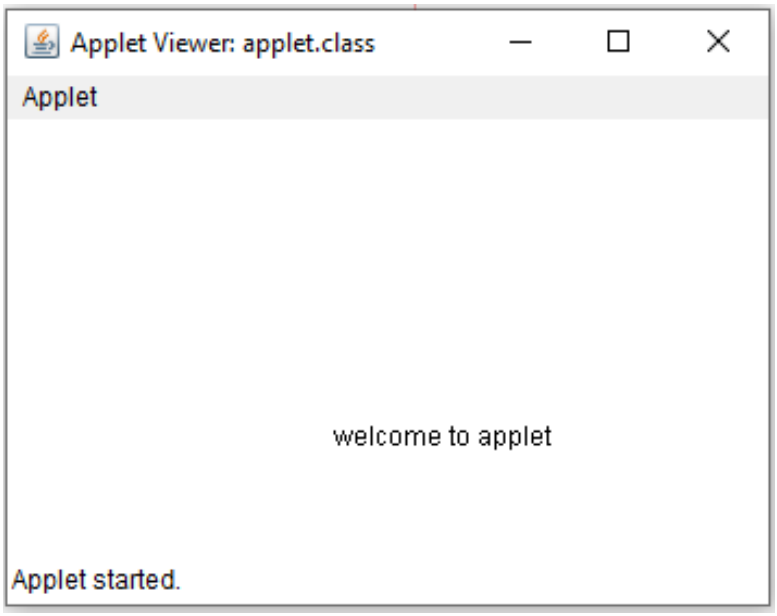


Problem Name : Java Applet	
Problem No: 03	**Page No : 08**

Java Code:

```
// My First Applet


import java.applet.Applet;

import java.awt.Graphics;

public class applet extends Applet{


public void paint(Graphics g){

g.drawString("welcome to applet",150,150);

}

}
```

Output:



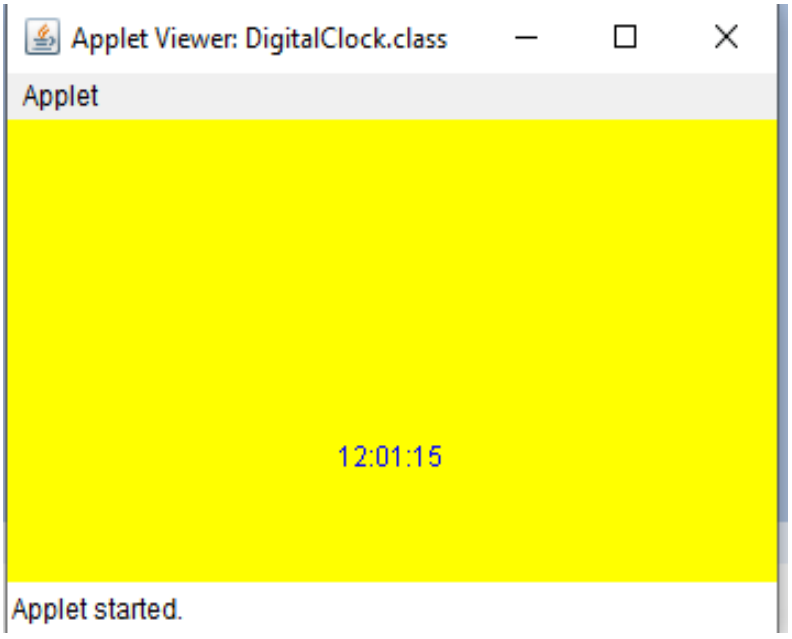
Problem Name: Digital Clock	
Problem No: 04	**Page No: 09**

Java Code:

```
import java.applet.*;
import java.awt.*;
import java.text.*;
import java.util.*;
public class DigitalClock extends Applet implements Runnable{
   Thread t=null;
   int hours=0, minutes=0,seconds=0;
   String timeString=" ";
         public void init() {
     setBackground( Color.yellow);
  }
  public void start() {
      t = new Thread( this );
      t.start();
  }
  public void run() {
     try {
        while (true) {
           Calendar cal = Calendar.getInstance();
           hours = cal.get( Calendar.HOUR_OF_DAY );
           if ( hours > 12 ) hours -= 12;
           minutes = cal.get( Calendar.MINUTE );
           seconds = cal.get( Calendar.SECOND );
           SimpleDateFormat formatter = new SimpleDateFormat("hh:mm:ss");
```

```
        Date date = cal.getTime();
        timeString = formatter.format( date );
        repaint();
        t.sleep( 100 );
      }
    }
    catch (Exception e) { }
  }
 public void paint( Graphics g ) {
    g.setColor( Color.blue );
    g.drawString( timeString, 150, 150 );
  }
  }
```

Output:



Problem Name : Integer Division.	
Problem No: 05	**Page No : 11**

Java Code :

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
/**
 *
 * @author Jijanur Rahman
 */
public class mainframe extends javax.swing.JFrame {
    /**
     * Creates new form mainframe
     */
    public mainframe() {
        initComponents();
    }
    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
```

```
private void initComponents() {
    num1 = new javax.swing.JLabel();
    num2 = new javax.swing.JLabel();
    jTextField1 = new javax.swing.JTextField();
    jTextField2 = new javax.swing.JTextField();
    jButton1 = new javax.swing.JButton();
    jButton2 = new javax.swing.JButton();
    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    num1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    num1.setText("First Number");
    num2.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    num2.setText("Second Number");
    jTextField2.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jTextField2ActionPerformed(evt);
        }
    });
    jButton1.setBackground(new java.awt.Color(153, 255, 102));
    jButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    jButton1.setText("Calculate");
    jButton1.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton1ActionPerformed(evt);
        }
    });
```

```
        jButton2.setBackground(new java.awt.Color(255, 51, 51));
        jButton2.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
        jButton2.setText("Clear");
        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(47, 47, 47)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(jButton1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(num1, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(num2, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(42, 42, 42)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED_SIZE, 111,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE, 111,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                        .addGap(85, 85, 85)
```

```
                .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addContainerGap(92, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
int num1= Integer.parseInt(jTextField1.getText());
int num2= Integer.parseInt(jTextField2.getText());
int result=num1/num2;
jButton1.setText("Division of "+num1+" and "+num2+" is "+result);
// TODO add your handling code here:
    }

    private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    }
    // Variables declaration - do not modify
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2;
    private javax.swing.JTextField jTextField1;
    private javax.swing.JTextField jTextField2;
```

```
    private javax.swing.JLabel num1;
    private javax.swing.JLabel num2;
    // End of variables declaration
}
```

Output: