Port City International University

LAB REPORT (MID)

Course Code: CSE 212

Course Title: Object Oriented Programming Sessional

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Problem Name: Environment Setup of Java

Description:

Java is a programming language and computing platform first released by Sun Microsystems of USA in 1995.

JDK: JDK is an acronym for **Java Development Kit**. The Java Development Kit (JDK) is a software development environment which is used to develop java applications and applets. It physically exists.

JVM: JVM (**Java Virtual Machine**) is an abstract machine. It is a specification that provides runtime environment in which **java** bytecode can be executed.

JRE: The **Java Runtime Environment** or JRE, is a software layer that runs on top of a computer's operating system software

IDE: An integrated development environment (IDE) is a **software application that provides comprehensive facilities to computer programmers for software development**.

Some IDE'S: Eclipse,NetBeans.

Java Basic Features:

Java has become a popular and useful programming language because of its excellent features, which play a very important role in contributing to the popularity of this language. The Java features are called ***"Java BuzzWords"***.

Sun MicroSystems officially describes Java with the following list of features:

- Simple and Familiar
- Compiled and Interpreted
- Platform Independent
- Portable
- Object-Oriented
- Secure

- Distributed
- Multi-threaded and Interactive
- High Performance
- Dynamic and Extensible

Steps of Installation of NetBeans on Windows

1. You need to have a setup file of the NetBeans JAVA into your setup.

2. If you didn't have the setup you can download from the following link: https://netbeans.org/images_www/v6/download/community/8.2

3. You can download any type of setup as per your requirements from the above mention web page.

4. Right-click on the setup or you can Double-Click on the setup by using the mouse.

5. Click on the next option. **6.** Check on the "**Private networks, such as my home and work network". 7.** Click on the **Allow access** button.

8. Check on the **"I accept"** option and click on the "**Next"** button.

9. Select the path where you want to install the software and press the "**Next"** button.

10. Set the **Password, User Name & Ports** for the Network Connectivity, or we can use this **UserName and the**

Password for the Connecting the Front-End to the Back-End.

11. Click on the "**Next"** button.

12. . Click on the "**Install"** button.

13. Wait for the while till the time the setup is properly Installed into the Computer.

14. After complication of the setup you can click on the "**Finish"** button or you can also register the Software, for Further Assistance because it is a Free Software.

15. Now you can start the Netbeans for further use.

Problem Name: Calculator Design & Implementation

Description: Here we used Java Swing to make this Calculator.

Here we maing used following two methods-

1. setText(String s)- sets the text of the label to s.
2. getText( )- returns the text of the label.

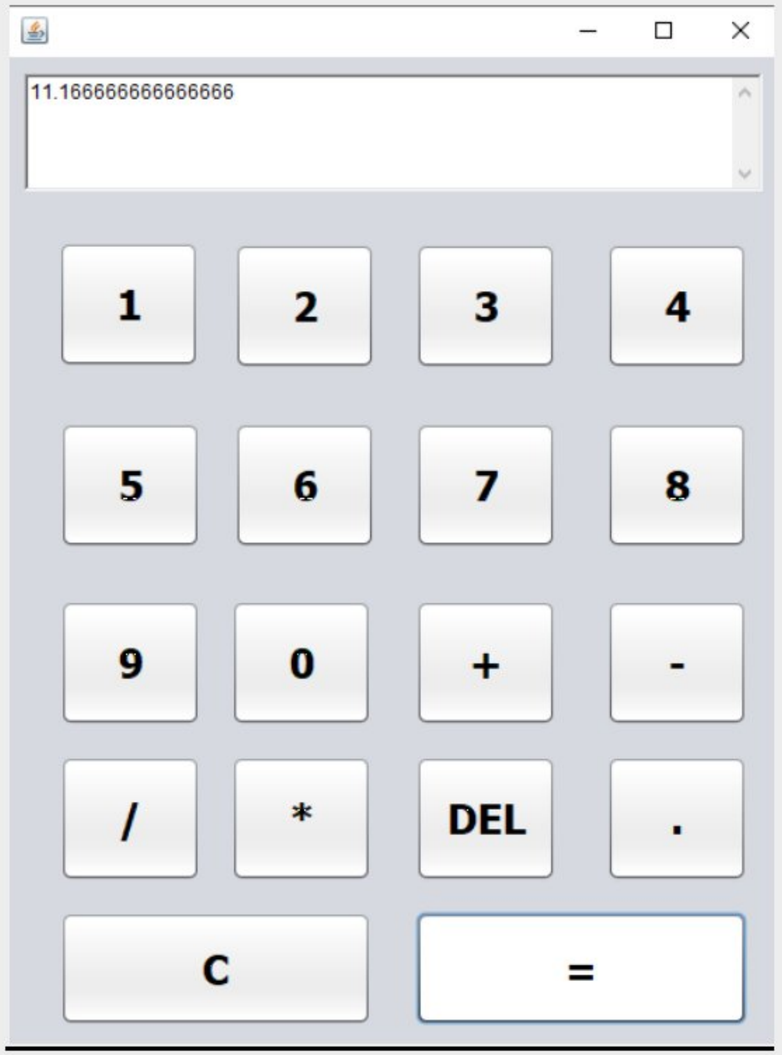
Firstly here we used swing control section to create the user interface,all the buttons and the text field.

CODE:

```
secondnum=Double.parseDouble(jtxtdisplay.getText());
double result=0;
if(operations==("+")) {
 result=firstnum+secondnum;
 }
```

```
if(operations=="-"){
 result = firstnum-secondnum;
 }
 if(operations=="*"){
  result = firstnum*secondnum;
 }
  if(operations=="/"){
   result = firstnum/secondnum;
  }
 }
jtxtdisplay.setText(""+result);
operations=null;
}
```

Output:



Problem Statement: Digital Clock

CODE:

```
package digital.clock;
import java.applet.*;
import java.awt.*;
import java.util.*;
import java.text.*;
public class DIGITALCLOCK extends Applet implements Runnable {
 Thread t = null;
 int hours=0, minutes=0, seconds=0;
 String timeString = "";
 public void init() {
 setBackground( Color.pink);
 }
```

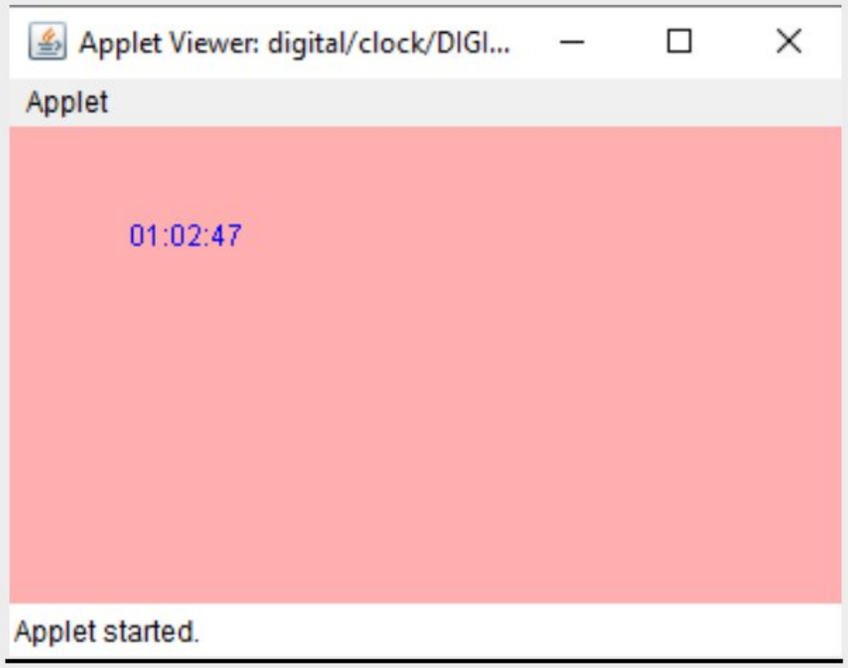
```
 public void start() {
 t = new Thread( this );

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( 1000 );  // interval given in milliseconds
 }
 }

 catch (Exception e) { }
 }
public void paint( Graphics g ) {
g.setColor( Color.blue );
 g.drawString( timeString, 50, 50 );    }
}
```

Output:



Problem Name: Integer Division.

CODE:

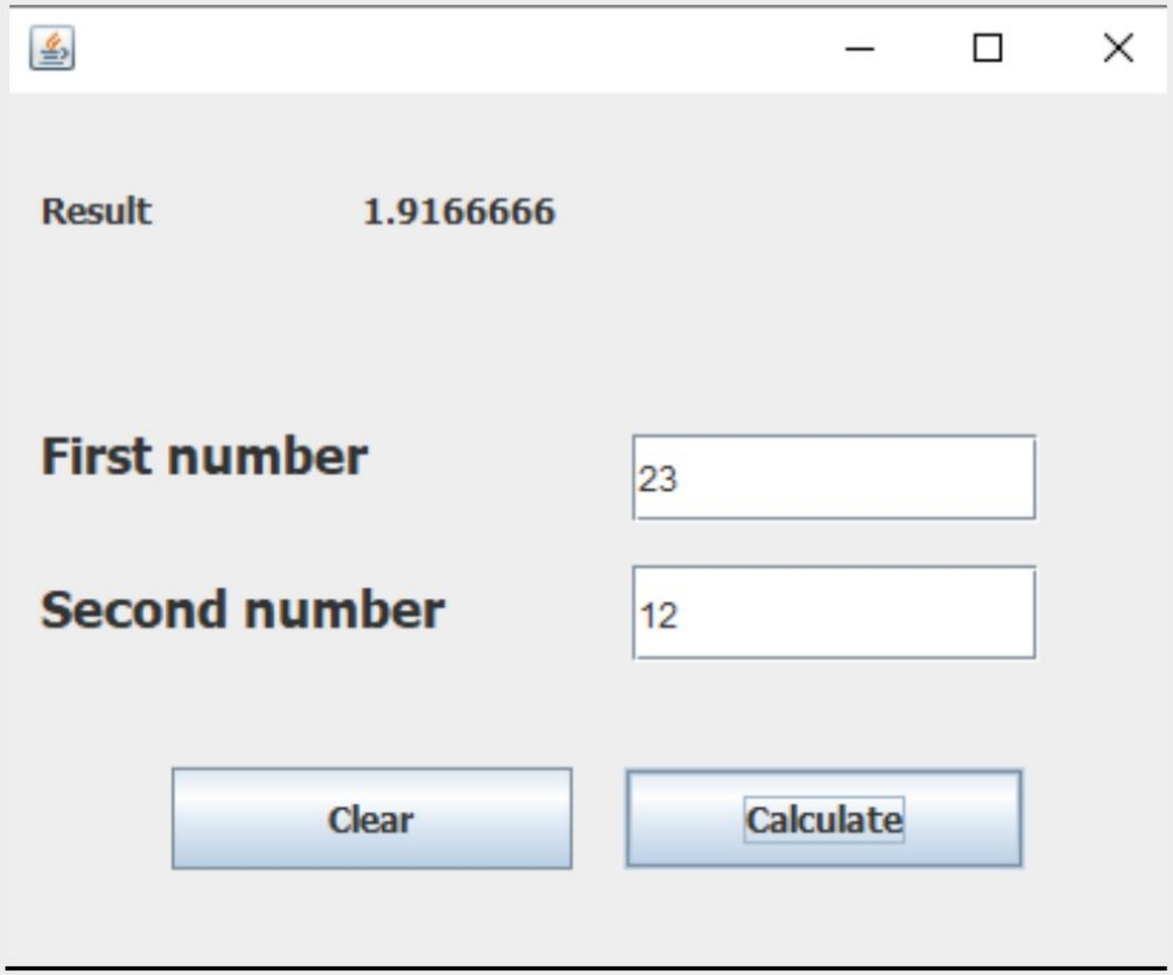
Calculate button:

```
int a=Integer.parseInt(jTextfield1.getText());
    int b=Integer.parseInt(jTextfield2.getText());
    float c= (float)a/b;
    lvl4.setText (c+"");
```

Clear button:

```
jTextfield1.setText(null);
    jTextfield2.setText(null);
    lvl4.setText("");
```

Output:



Problem Name: Applet

CODE:

```
package APPLET1;


/**
 *
 * @author user
 */

 import java.awt.Graphics;
 public class APPLET1 extends java.applet.Applet {

     public void paint(Graphics g){
    g.drawString("welcome", 150, 150);
}
}
```

Output: