NUML
National University of Modern Languages

BS-Software Engineering 2nd-E

OOP

Hamza Mehmood

Roll# SP-21-110
NUML-S21-2352 9

Title: Lab Report

Submitted to:
Mam. Sadaf

National University of Modern Languages

Object Oriented Programming

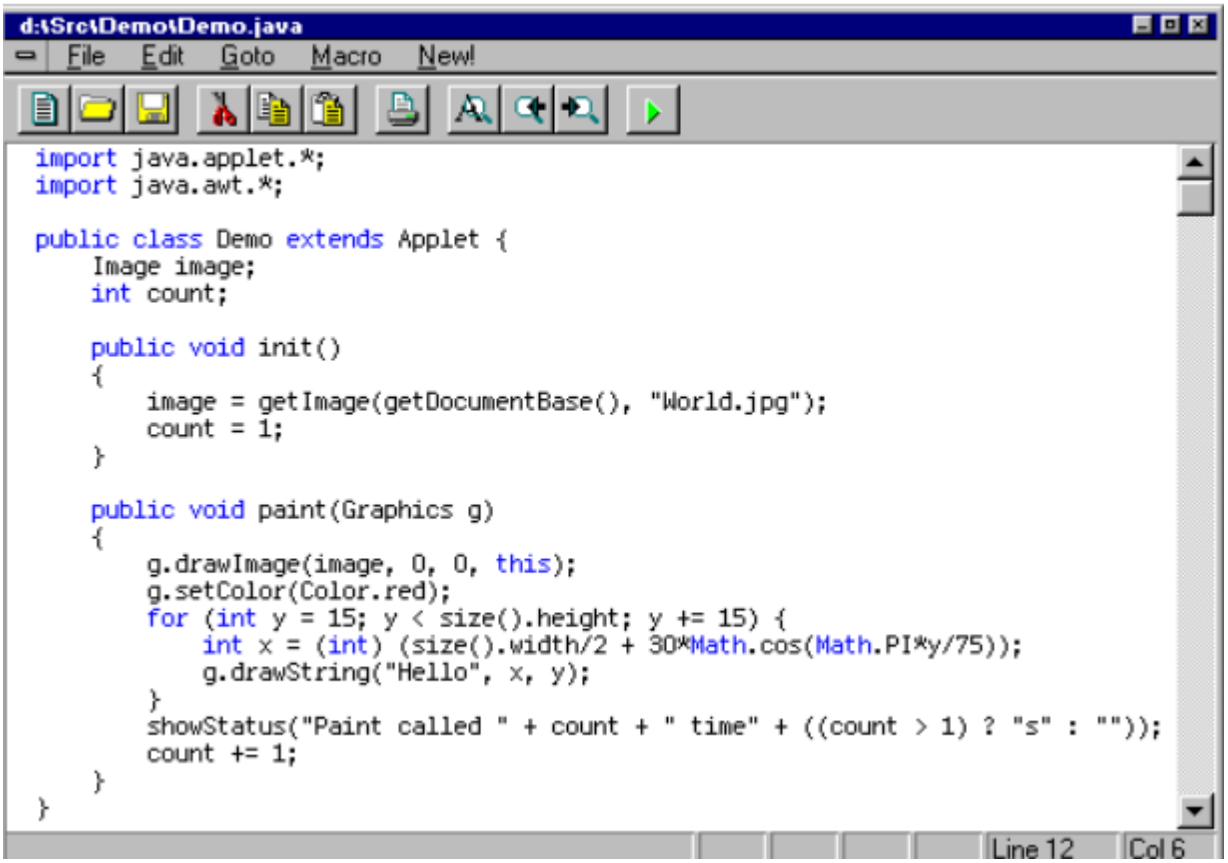
Week 1 (27-9-2021)

Table of Contents

7	Bitwise Operators

What is A Program?

A **computer program** (also a software program, or just a program) is a sequence of instructions written to perform a specified task for a computer.



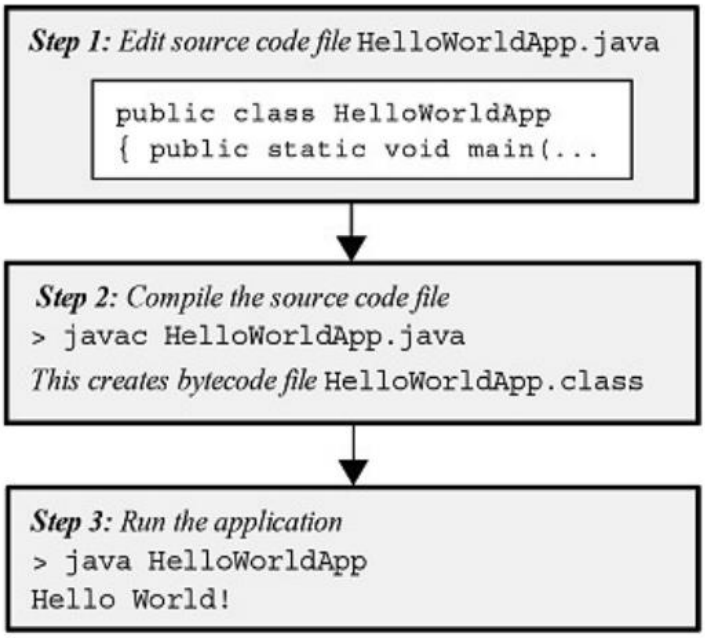
Getting Started

To begin developing Java programs, follow these steps:

Step 1: Obtain the Software Development Kit (SDK) for J2SE (Java 2 Platform, Standard Edition) or JDK

Step 2: Install the JDK

Simple Java Application



- **Step 1:** Use an editor to enter the following code for the HelloWoldApp program:

HelloWorldApp Application

```
public class HelloWorldApp
{
  public static void main(String arg[])
  {
    System.out.println("Hello World!");
  }
}
```

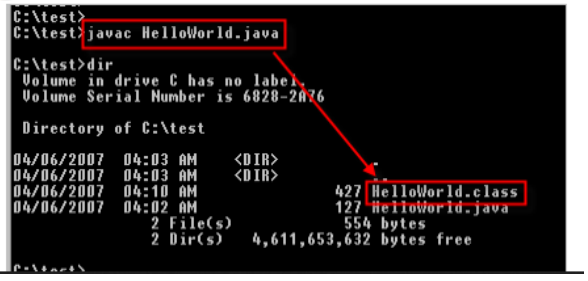
- Save this code in a file called HelloWorldApp.java

- **Step 2:** Compile the application with the command line:

  > javac HelloWorldApp.java

- This creates the class file (with the bytecode output):

  HelloWorldApp.class



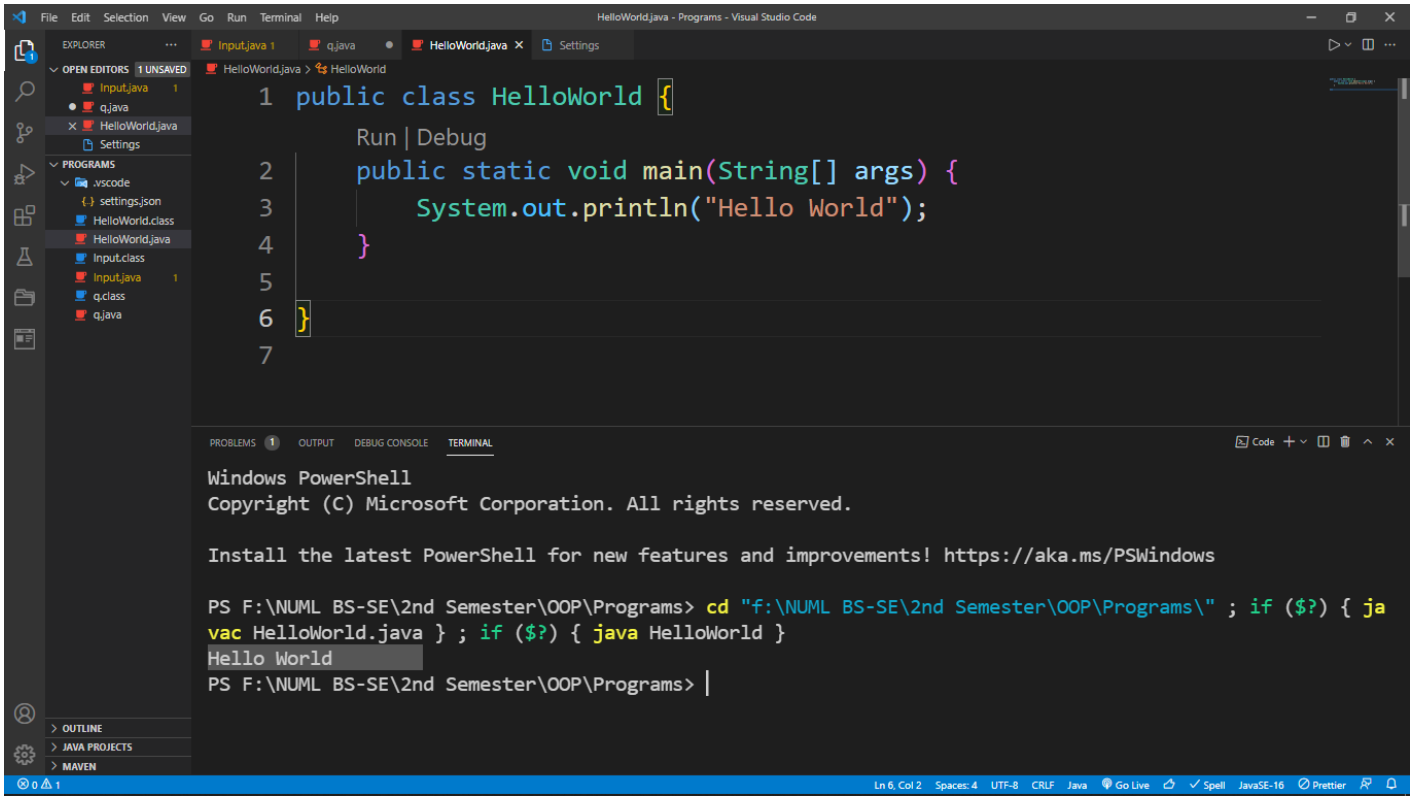
- **Step 3:** Use the java command to run the program:

  > java HelloWorldApp

- The output is printed after the command line.

First Program in Java

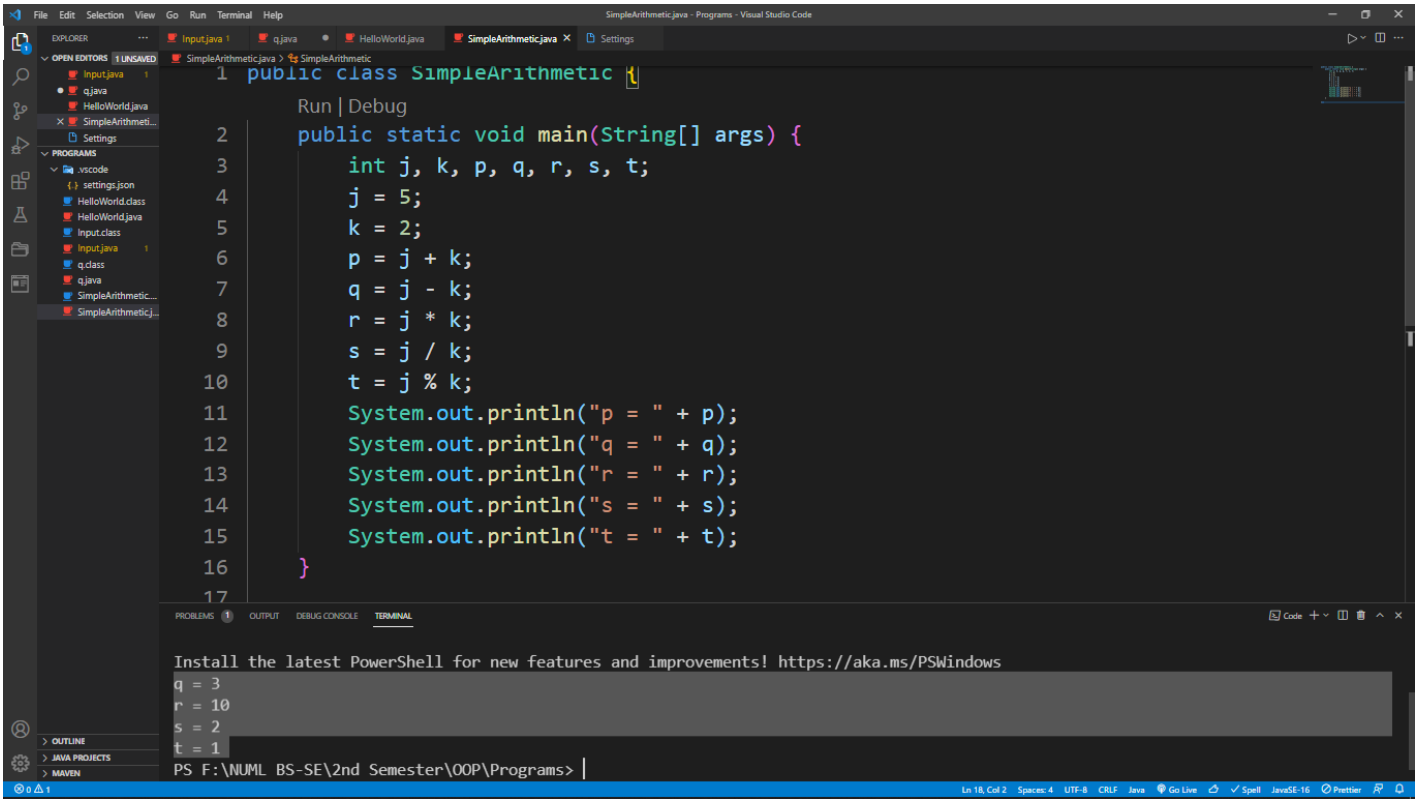
```
public class HelloWorld {
    public static void main(String[] args)
 {
        System.out.println("Hello World");
    }

}
```



Simple Arthimetic in Java

```java
public class SimpleArithmetic {
    public static void main(String[] args) {
        int j, k, p, q, r, s, t;
        j = 5;
        k = 2;
        p = j + k;
        q = j - k;
```

```
        r = j * k;
        s = j / k;
        t = j % k;
        System.out.println("p = " + p);
        System.out.println("q = " + q);
        System.out.println("r = " + r);
        System.out.println("s = " + s);
        System.out.println("t = " + t);
    }

}
```

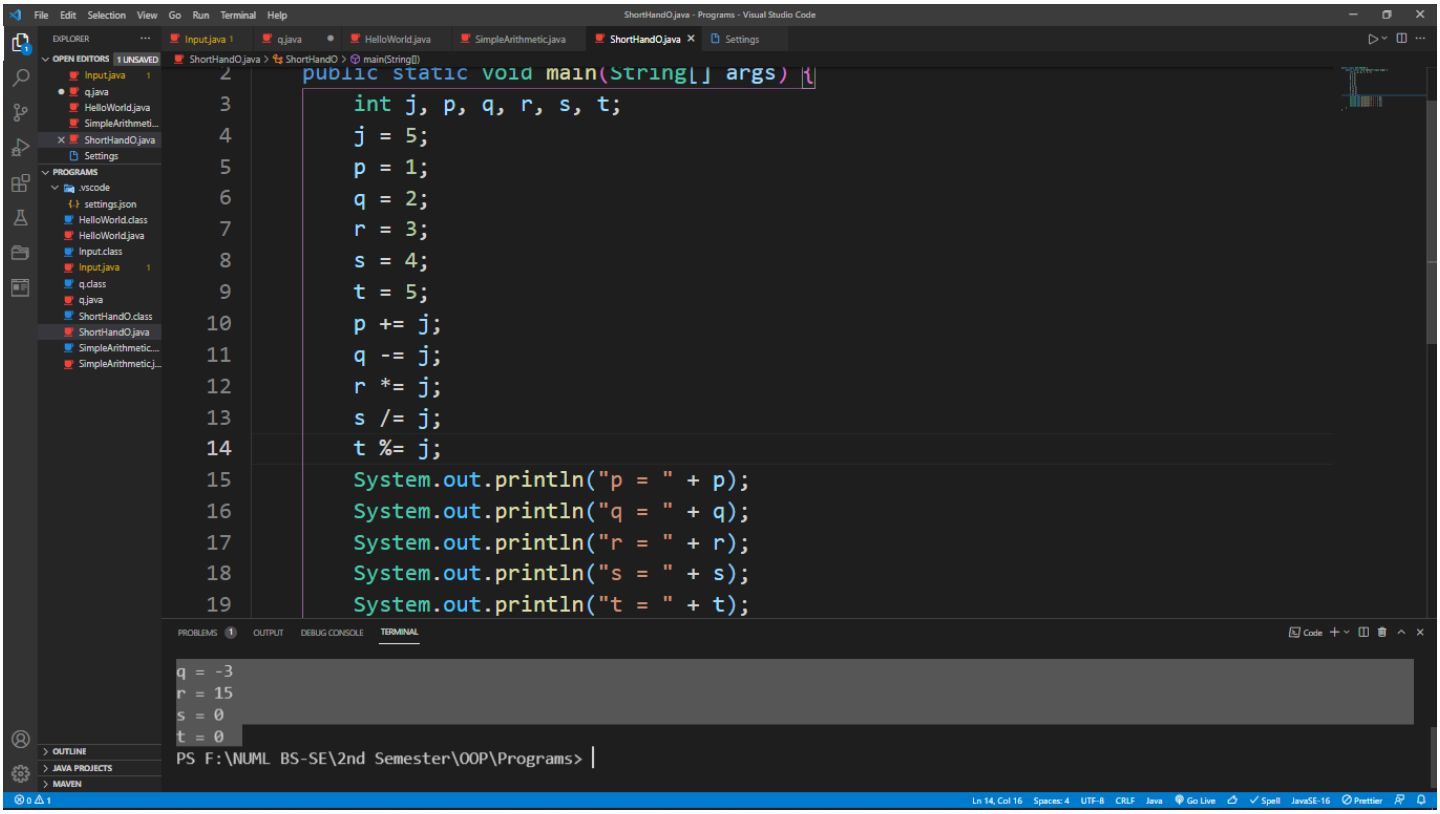


Short Hand Operator

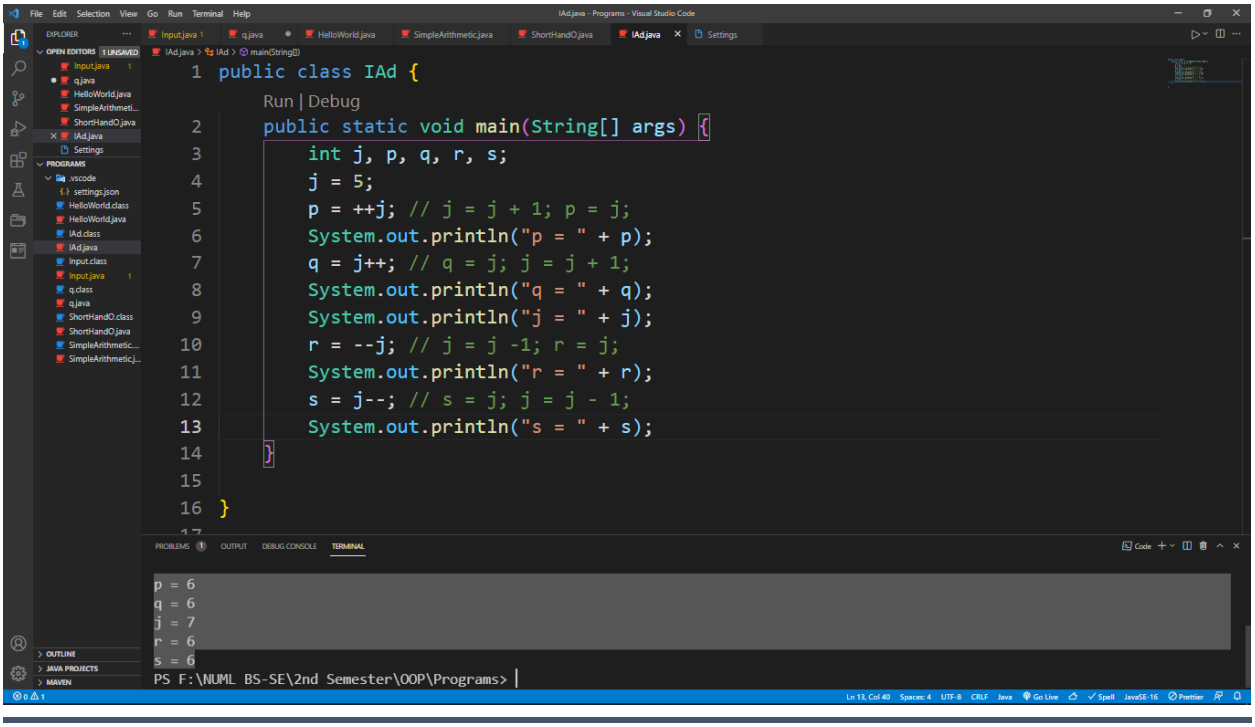
```
public class ShortHandO {
    public static void main(String[] args)
 {
        int j, p, q, r, s, t;
        j = 5;
        p = 1;
        q = 2;
        r = 3;
```

```
        s = 4;
        t = 5;
        p += j;
        q -= j;
        r *= j;
        s /= j;
        t %= j;
        System.out.println("p = " + p);
        System.out.println("q = " + q);
        System.out.println("r = " + r);
        System.out.println("s = " + s);
        System.out.println("t = " + t);
    }
}
```

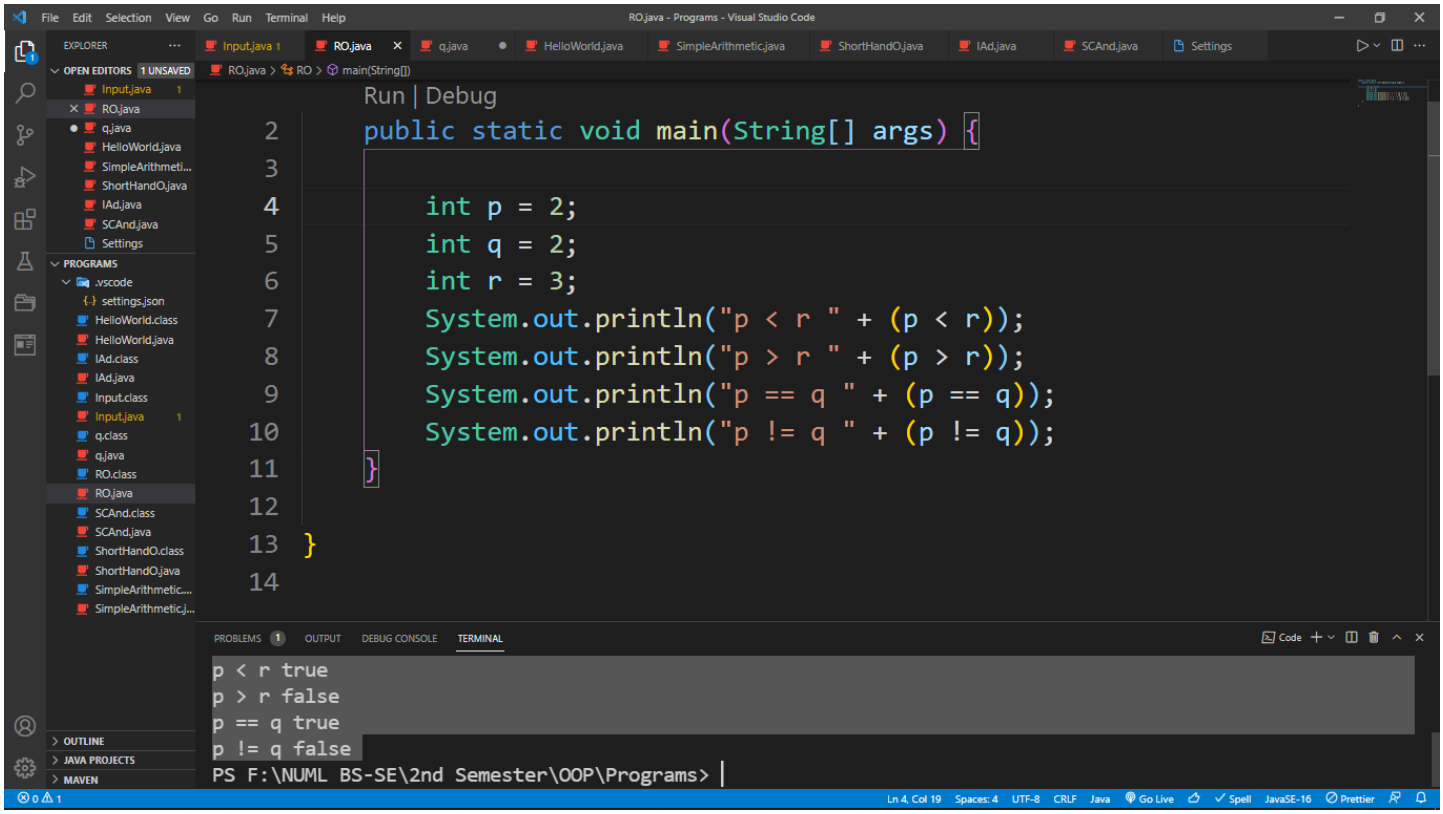
HAMZA MEHMOOD
ROLL# SP-21-110



Increment & Decrement



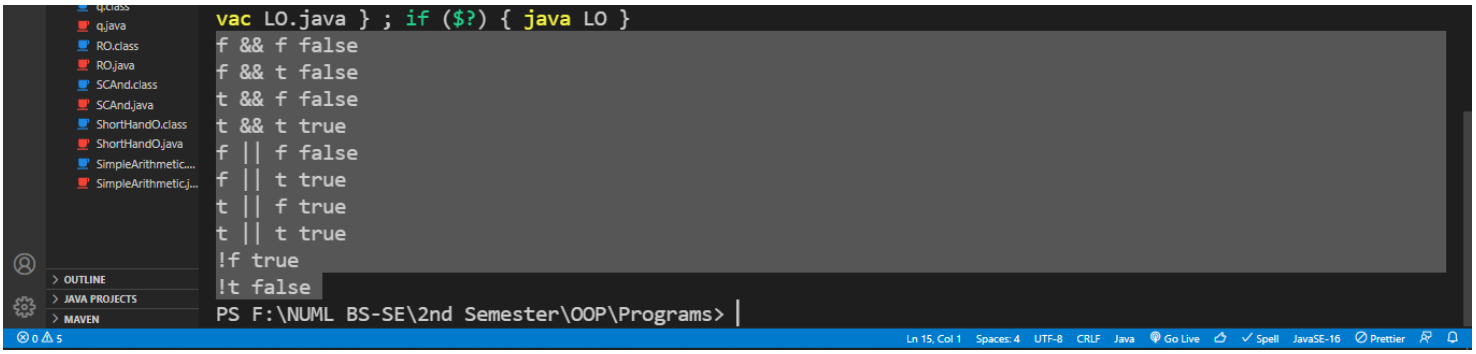
Relational Operators



Logical Operators

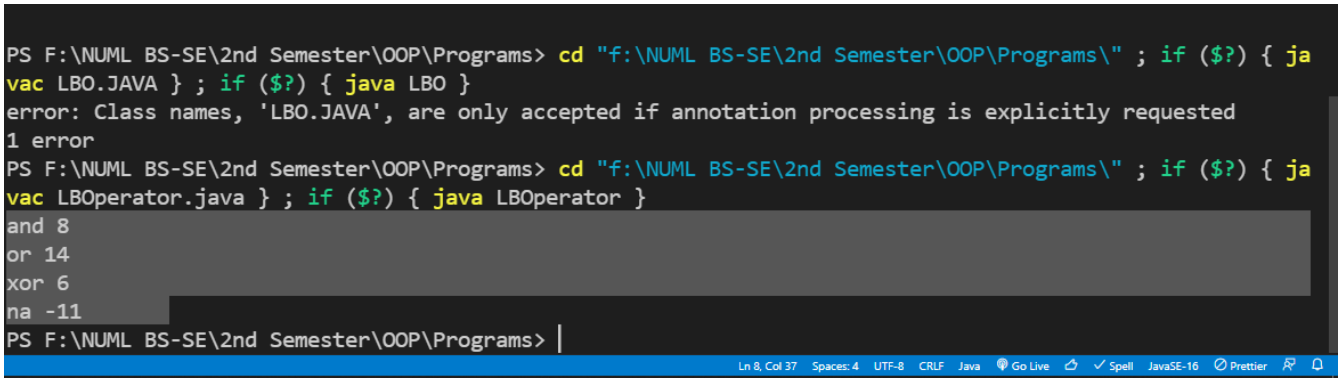
```
public class LO {

    public static void main(String[] args) {

        boolean t = true;

        boolean f = false;

        System.out.println("f && f " + (f && f));
```

```
        System.out.println("f && t " + (f && t));

        System.out.println("t && f " + (t && f));

        System.out.println("t && t " + (t && t));

        System.out.println("f || f " + (f || f));

        System.out.println("f || t " + (f || t));

        System.out.println("t || f " + (t || f));

        System.out.println("t || t " + (t || t));

        System.out.println("!f " + !f);

        System.out.println("!t " + !t);


    }


}
```



Logical BIT Operators

```
public class LBOperator {
    public static void main(String[] args)
 {
        int a = 10; // 00001010 = 10
        int b = 12; // 00001100 = 12
        int and, or, xor, na;
        and = a & b; // 00001000 = 8
        or = a | b; // 00001110 = 14
        xor = a ^ b; // 00000110 = 6
        na = ~a; // 11110101 = -11
        System.out.println("and " + and);
        System.out.println("or " + or);
      System.out.println("xor " + xor);
        System.out.println("na " + na);
    }
}
```



National University of Modern Languages

Object Oriented Programming

Week 2 & 3

Table of Contents

S.no.	Programs
1	Write a program to calculate the area of different shapes i.e. square, rectangle, circle by using classes

2	Write a program to get data of car class i.e. model, owner name, price and print these all for 2 objects.

```
import java.util.Scanner;
// import java.util.Random;


class Rectangle {
    float Height;
    float Width;
    float Length;

    void Rectangle_area() {

        System.out.println("The area of Rectangle is" + (Hei
ght * Length * Width));
    }
}
```

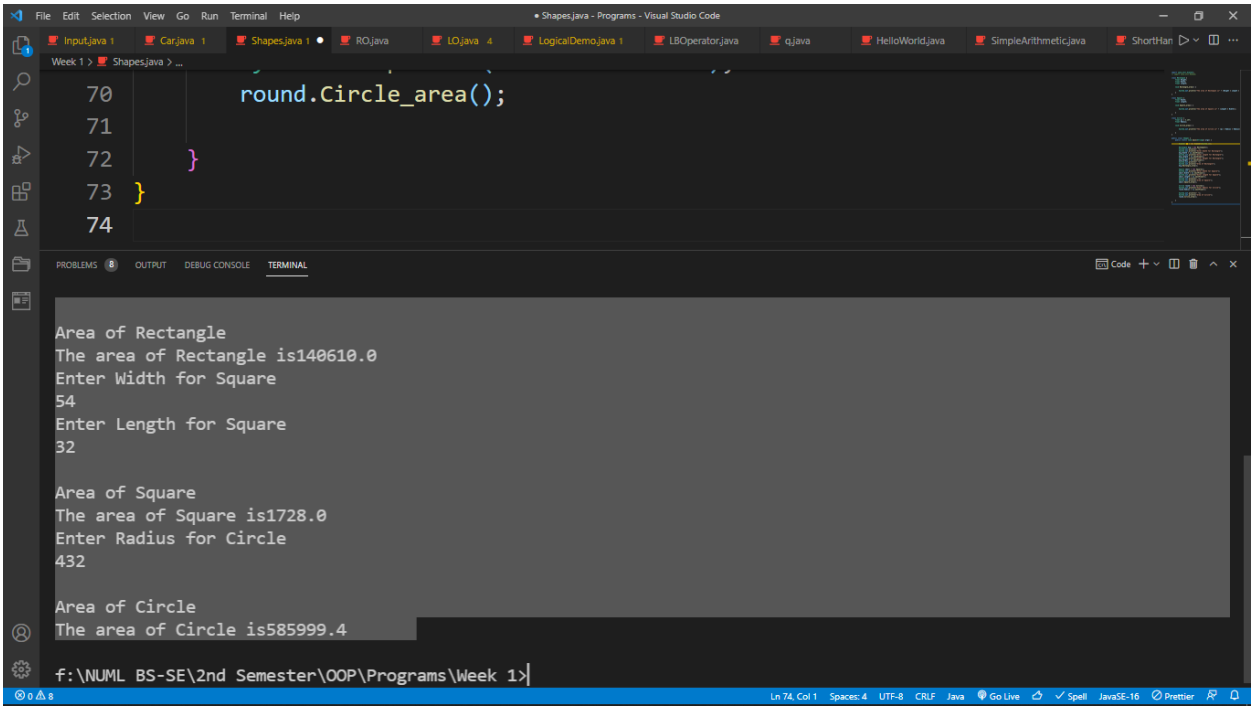
```
class Square {
    float Width;
    float Length;

    void Square_area() {

        System.out.println("The area of Square is" + (Length
 * Width));

    }
}

class Circle {
    float pi = 3.14f;
    float Radius;

    void Circle_area() {
```

```
        System.out.println("The area of Circle is" + (pi * R
adius * Radius));


    }
}


public class Shapes {
    public static void main(String[] args) {


        Scanner sc = new Scanner(System.in);


        Rectangle big = new Rectangle();
        System.out.println(" ");
        System.out.println("Enter Width for Rectangle");
        big.Width = sc.nextFloat();
        System.out.println("Enter Length for Rectangle");
        big.Length = sc.nextFloat();
        System.out.println("Enter Height for Rectangle");
        big.Height = sc.nextFloat();
```

```
        System.out.println(" ");
        System.out.println("Area of Rectangle");
        big.Rectangle_area();

        Square small = new Square();
        System.out.println("Enter Width for Square");
        small.Width = sc.nextFloat();
        System.out.println("Enter Length for Square");
        small.Length = sc.nextFloat();
        System.out.println(" ");
        System.out.println("Area of Square");
        small.Square_area();

        Circle round = new Circle();
        System.out.println("Enter Radius for Circle");
        round.Radius = sc.nextFloat();

        System.out.println(" ");
        System.out.println("Area of Circle");
```

```
        round.Circle_area();



    }
}
```

OUTPUT



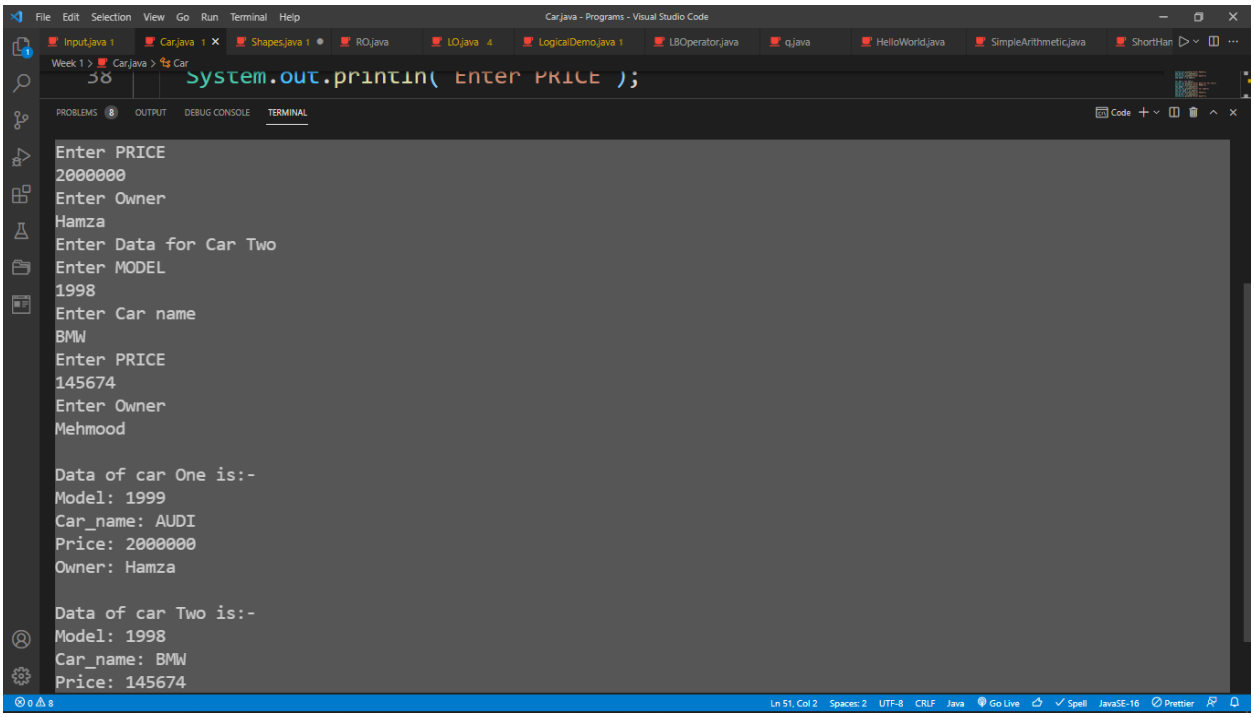

```
import java.util.Scanner;


class Car {
```

```
  int model;
  String car_name;
  int price;
  String owner;

  void detail() {

    System.out.println("Model: " + model);
    System.out.println("Car_name: " + car_name)
;
    System.out.println("Price: " + price);
    System.out.println("Owner: " + owner);
  }

  public static void main(String [] args) {
    Scanner sc = new Scanner(System.in);
    Car one = new Car();
    System.out.println("Enter Data for Car One"
);
```

```
    System.out.println("Enter MODEL");
    one.model = sc.nextInt();
    System.out.println("Enter Car name");
    one.car_name = sc.next();
    System.out.println("Enter PRICE");
    one.price = sc.nextInt();
    System.out.println("Enter Owner");
    one.owner = sc.next();

    Car two = new Car();
    System.out.println("Enter Data for Car Two"
);
    System.out.println("Enter MODEL");
    two.model = sc.nextInt();
    System.out.println("Enter Car name");
    two.car_name = sc.next();
    System.out.println("Enter PRICE");
    two.price = sc.nextInt();
    System.out.println("Enter Owner");
```

```
    two.owner = sc.next();


    System.out.println(" ");
    System.out.println("Data of car One is:-");
    one.detail();
    System.out.println(" ");
    System.out.println("Data of car Two is:-");
    two.detail();


  }
}
```

OUTPUT



PROGRAM 3

Source Code:

```
package javaapplication28lab.pkg4task2;
class box{
   double height;
   double width;
   double depth;
   double voloume(){
      return width*height*depth;
   }
   void setdeimension(double h,double w,double d){
      width=w;depth=d;height=h;
```

```
   }
  }
public class JavaApplication28lab4task2 {
   public static void main(String[] args) {
       box mybox=new box();
       box mybox1=new box();
       double voloume;
             mybox.setdeimension(10, 20, 30);
       mybox1.setdeimension(2, 3, 4);
       voloume=mybox.voloume();
     System.out.println("Voloume of first box is"+voloume);
       voloume=mybox1.voloume();
      System.out.println("Voloume of second box  is"+voloume);
     }
}
```

Input:

```
package javaapplication28lab.pkg4task2;
class box{
    double height;
    double width;
    double depth;
    double voloume(){
        return width*height*depth;
    }
    void setdeimension(double h,double w,double d){
        width=w;depth=d;height=h;
    }

    }

public class JavaApplication28lab4task2 {

    public static void main(String[] args) {
        box mybox=new box();
        box mybox1=new box();
        double voloume;

        mybox.setdeimension(10, 20, 30);
        mybox1.setdeimension(2, 3, 4);
        voloume=mybox.voloume();

        System.out.println("Voloume of first box is"+voloume);
        voloume=mybox1.voloume();
                System.out.println("Voloume of second box  is"+voloume);

    }
}
```

Output:

```
run:
Voloume of first box is6000.0
Voloume of second box  is24.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

PROGRAM 4

Source code:

```
package javaapplication29.lab.work;

class Test{

int a;

 public int b;

private int c;

void Setc(int i){

   c=i;

}

int getc(){

 return c;

}

       }

public class JavaApplication29LabWork {

   public static void main(String[] args) {

Test obj=new Test();

obj.a=20;

obj.b=30;

obj.Setc(40);

System.out.println(obj.a+" "+obj.b+" "+obj.getc());
```

}

}

Input:

```
private int c;
void Setc(int i){
    c=i;
}
int getc(){
 return c;
}
        }

public class JavaApplication29LabWork {
    public static void main(String[] args) {
Test obj=new Test();
obj.a=20;
obj.b=30;
obj.Setc(40);
System.out.println(obj.a+" "+obj.b+" "+obj.getc());
    }

}
```

Output:

```
run:
20 30 40
BUILD SUCCESSFUL (total time: 0 seconds)
```

PROGRAM 5

```
package javaapplication36.lab.pkg5.task;

class Distance{
   float feet;
   float inches;
   Distance(){
     }
   Distance(float f,float i){
```

```
        this.feet=feet;
        this.inches=inches;
    }
    public float getfeet(){
  return feet;
    }
        public void setfeet(){
        this.feet=feet;
    }
    public float setinches(){
        return inches;
    }
}
public class JavaApplication36Lab5Task {
    public static void main(String[] args) {
        Distance Setter=new Distance();
        Distance getter=new Distance(10,20);
        Distance method=new Distance();
        Setter.getfeet();
        getter.setfeet();
        method.setinches();
        }
}
```

Input:

```
package javaapplication36.lab.pkg5.task;
class Distance{
    float feet;
    float inches;
    Distance(){

    }
    Distance(float f,float i){
        this.feet=feet;
        this.inches=inches;
    }
    public float getfeet(){
  return feet;
    }

    public void setfeet(){
        this.feet=feet;
    }
    public float setinches(){
        return inches;
    }
}
public class JavaApplication36Lab5Task {
    public static void main(String[] args) {
        Distance Setter=new Distance();
        Distance getter=new Distance(10,20);
        Distance method=new Distance();
        Setter.getfeet();
        getter.setfeet();
        method.setinches();
```

Output:

```
run:
 Enter the feet :
12
 Enter the inches :
45
feet : 0
 Inches : 0.0
BUILD SUCCESSFUL (total time: 7 seconds)
```

PROGRAM 6

Source code:

```
package javaapplication38.pkgclass.task;

class StaticExample{

   static int staticCounter=0;

   int counter=0;

   StaticExample(){

      staticCounter++;
```

```
        counter++;
        }
}
public class JavaApplication38ClassTask {
    public static void main(String[] args) {
        StaticExample se1=new StaticExample();
        StaticExample se2=new StaticExample();
        System.out.println("Value of static counter for set1:"+se1.staticCounter);
        System.out.println("value of StaticCounter for Se2:"+se2.staticCounter);
        System.out.println("value of counter for se1:"+se1.counter);
        System.out.println("Value of counter for se2:"+se2.counter);
        StaticExample.staticCounter=100;
        System.out.println("value of StaticCounter for se1:"+se1.staticCounter);
        System.out.println("value of staticCounter for se2:"+se2.staticCounter);
          }
}
```

Input:

```
class StaticExample{
    static int staticCounter=0;
    int counter=0;
    StaticExample(){
        staticCounter++;
        counter++;

    }

}

public class JavaApplication38ClassTask {

    public static void main(String[] args) {
        StaticExample sel=new StaticExample();
        StaticExample se2=new StaticExample();
        System.out.println("Value of static counter for setl:"+sel.staticCounter);
        System.out.println("value of StaticCounter for Se2:"+se2.staticCounter);
        System.out.println("value of counter for sel:"+sel.counter);
        System.out.println("Value of counter for se2:"+se2.counter);
        StaticExample.staticCounter=100;
        System.out.println("value of StaticCounter for sel:"+sel.staticCounter);
        System.out.println("value of staticCounter for se2:"+se2.staticCounter);



    }

}
```

Output:

```
Value of static counter for setl:2
value of StaticCounter for Se2:2
value of counter for sel:1
Value of counter for se2:1
value of StaticCounter for sel:100
value of staticCounter for se2:100
BUILD SUCCESSFUL (total time: 0 seconds)
```

Program 10:

```
package lab.task.java.getter.seeter;

class Adress{
   String street;
   String house;
   String city;
   int code;
```

```
  //now using geetter and setter
  void setstreet(String st){
     street=st;
  }
  void sethouse(String h){
     house=h;
  }
  void setcity(String c){
     city=c;
  }
  void setcode(int co){
     code=co;
  }
  String getstreet(){
     return   street;
  }
  String gethouse(){
     return house;
  }
  String getcity(){
return city;
  }
  int getcode(){
     return code;
  }
```

```
}
//Now making the next drieved class
class person extends Adress{
  //now method to show adress
   void Adress(){
   System.out.println("street:"+getstreet());
   System.out.println("house:"+gethouse());
   System.out.println("city:"+getcity());
   System.out.println("code:"+getcode());
}
}

public class LabTaskJavaGetterSeeter {
   public static void main(String[] args) {
//now make a object
            person p=new person();
            p.setstreet("Street #45");
            p.sethouse("Jatt jouse");
            p.setcity("Islambad");
            p.setcode(3456);
            p.Adress();
   }
}
```

Input:

```
package lab.task.java.getter.seeter;
class Adress{
    String street;
    String house;
    String city;
    int code;
    //now using geetter and setter
    void setstreet(String st){
        street=st;
    }
    void sethouse(String h){
        house=h;
    }
    void setcity(String c){
        city=c;
    }
    void setcode(int co){
        code=co;
    }
    String getstreet(){
        return   street;
    }
    String gethouse(){
        return house;
    }
    String getcity(){
  return city;
    }
    int getcode(){
        return code;
    }
}
```

```
//Now making the next drieved class
class person extends Adress{
   //now method to show adress
    void Adress(){
    System.out.println("street:"+getstreet());
    System.out.println("house:"+gethouse());
    System.out.println("city:"+getcity());
    System.out.println("code:"+getcode());
}   }
public class LabTaskJavaGetterSeeter {
    public static void main(String[] args) {
//now make a object
                person p=new person();
                p.setstreet("Street #45");
                p.sethouse("Jatt jouse");
                p.setcity("Islambad");
                p.setcode(3456);
                p.Adress();
    }
}
```

Output:

```
run:
street:Street #45
house:Jatt jouse
city:Islambad
code:3456
BUILD SUCCESSFUL (total time: 0 seconds)
```

PROGRAM 7

```
package leture.pkg4.by.mam.practice;
class Box{
   double width,height,depth;
   Box(Box ob){                    //Passing object ot constructor
   width=ob.width;
   height=ob.height;
   depth=ob.depth;
}
      Box(double w,double h,double d){
         width=w;
         height=h;
         depth=d;
      }
      double voloume(){
         return width*height*depth;
      }
}
public class Leture4ByMamPractice {
```

```
    public static void main(String[] args) {
        Box mybox1=new Box(10,20,30);
        Box mybox2=new Box(2,3,3);
        double voloume;
        voloume=mybox1.voloume();
System.out.println("voloume of the first is"+voloume);
      voloume=mybox2.voloume();
      System.out.println("Voloume of Second objeext 2 is"+voloume);
        }
   }
```

Input:

```
class Box{
    double width,height,depth;
    Box(Box ob){                            //Passing object ot constructor
    width=ob.width;
    height=ob.height;
    depth=ob.depth;
}
        Box(double w,double h,double d){
            width=w;
            height=h;
            depth=d;
        }
        double voloume(){
            return width*height*depth;
        }
}
public class Leture4ByMamPractice {
    public static void main(String[] args) {
        Box mybox1=new Box(10,20,30);
        Box mybox2=new Box(2,3,3);
        double voloume;

voloume=mybox1.voloume();
System.out.println("voloume of the first is"+voloume);
      voloume=mybox2.voloume();
      System.out.println("Voloume of Second objeext 2 is"+voloume);



    }
```

Output:

```
voloume of the first is6000.0
Voloume of Second objeext 2 is18.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

Program 12:

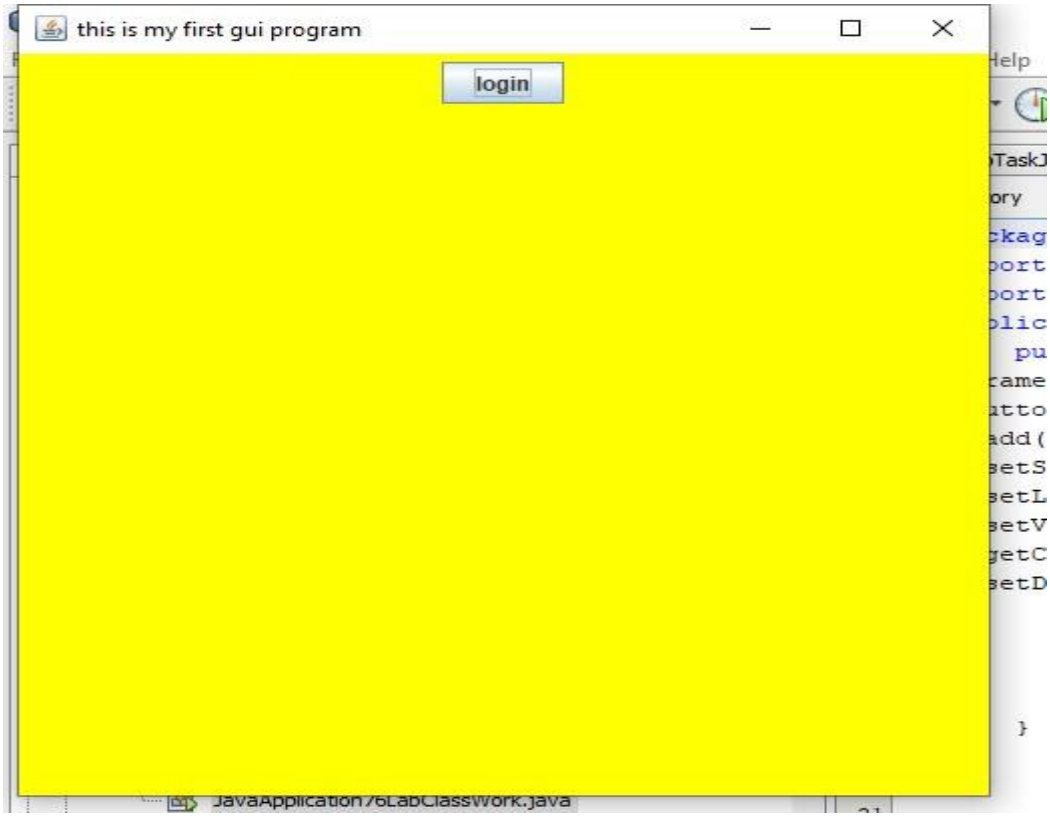
```
package javaapplication76.lab.pkgclass.work;
```

```
import javax.swing.*;
import java.awt.*;
public class JavaApplication76LabClassWork {
   public static void main(String[] args) {
JFrame f=new JFrame("this is my first gui program");
JButton b=new JButton("login");
f.add(b);
f.setSize(500, 500);
f.setLayout((new FlowLayout()));
f.setVisible(true);
f.getContentPane().setBackground(Color.yellow);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

   }

}
```

Input:

```
package javaapplication76.lab.pkgclass.work;
import javax.swing.*;
import java.awt.*;
public class JavaApplication76LabClassWork {
    public static void main(String[] args) {
JFrame f=new JFrame("this is my first gui program");
JButton b=new JButton("login");
f.add(b);
f.setSize(500, 500);
f.setLayout((new FlowLayout()));
f.setVisible(true);
f.getContentPane().setBackground(Color.yellow);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);



    }

}
```

Output:



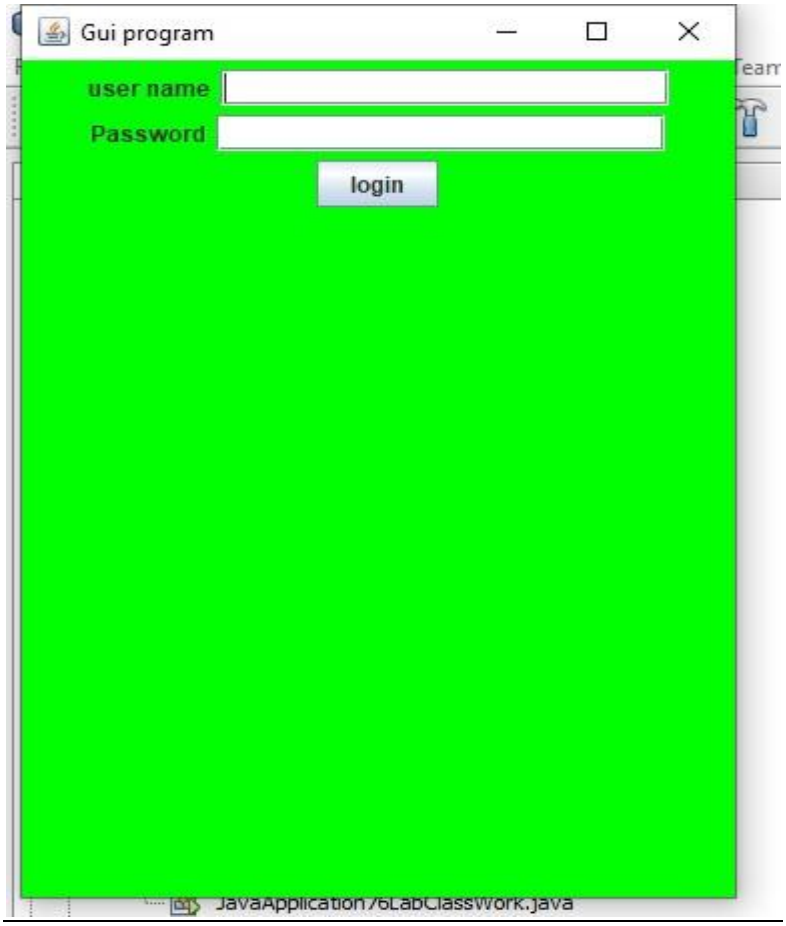
Program 13:

```
package javaapplication77lab.pkgclass.mon.part.pkg2;
import javax.swing.*;
import java.awt.*;
public class JavaApplication77LabClassMOnPart2 {
   public static void main(String[] args) {
      JFrame f=new JFrame("Gui program");
      JLabel L1=new JLabel("user name");
      JTextField f1=new JTextField(20);
      JLabel l2=new JLabel("Password");
      JTextField f2=new JTextField(20);
      JButton b=new JButton("login");
       f.add(L1);
      f.add(f1);
      f.add(l2);
      f.add(f2);
      f.add(b);
      f.setSize(500, 500);
      f.setLayout((new FlowLayout()));
      f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
      f.setVisible(true);
      f.getContentPane().setBackground(Color.GREEN);
   }
   }
```

Input:

```
import javax.swing.*;
import java.awt.*;

public class JavaApplication77LabClassMOnPart2 {
    public static void main(String[] args) {
        JFrame f=new JFrame("Gui program");
        JLabel L1=new JLabel("user name");
        JTextField f1=new JTextField(20);
        JLabel l2=new JLabel("Password");
        JTextField f2=new JTextField(20);
        JButton b=new JButton("login");

        f.add(L1);
        f.add(f1);
        f.add(l2);
        f.add(f2);
        f.add(b);
        f.setSize(500, 500);
        f.setLayout((new FlowLayout()));
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        f.setVisible(true);
        f.getContentPane().setBackground(Color.GREEN);
    }

}
```

Output:



PROGRAM 8

Source code:

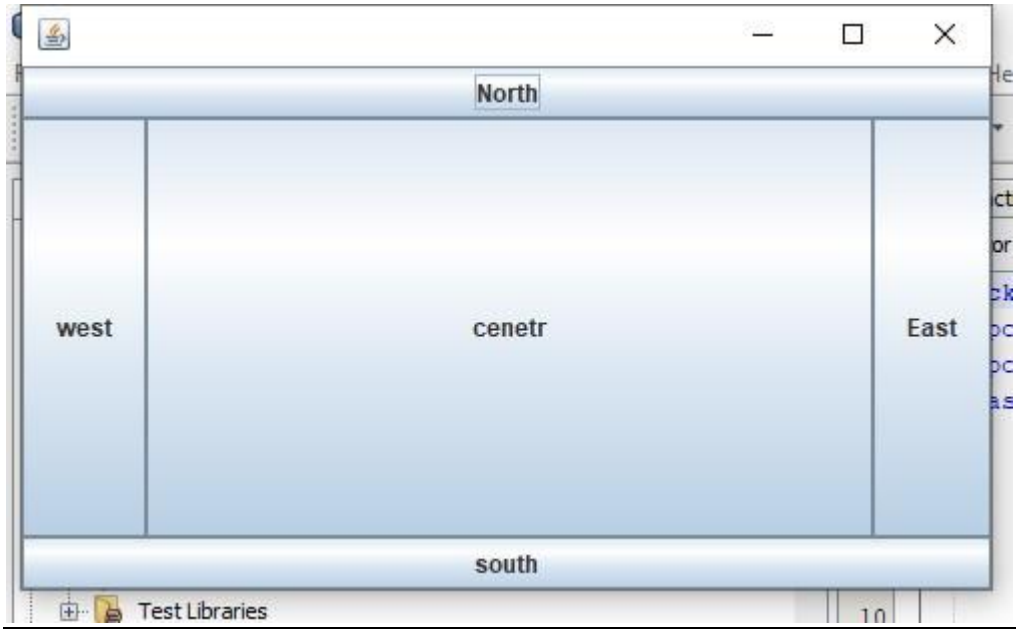
```
package layout.labclass;

import javax.swing.*;

import java.awt.*;

class B extends JFrame{

   B(){

      JButton b1=new JButton("North");

      JButton b2=new JButton("south");

      JButton b3=new JButton("East");
```

```
        JButton b4=new JButton("west");
        JButton b5=new JButton("cenetr");
        add(b1,BorderLayout.NORTH);
         add(b2,BorderLayout.SOUTH);
          add(b3,BorderLayout.EAST);
           add(b4,BorderLayout.WEST);
            add(b5,BorderLayout.CENTER);



            setSize(500,300);
            setVisible(true);
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    }
}
public class LayoutLabclass {

    public static void main(String[] args) {
    B b1=new B();
    }

}
```

Input:

```
package layout.labclass;
import javax.swing.*;
import java.awt.*;
class B extends JFrame{
    B(){
        JButton b1=new JButton("North");
        JButton b2=new JButton("south");
        JButton b3=new JButton("East");
        JButton b4=new JButton("west");
        JButton b5=new JButton("cenetr");
        add(b1,BorderLayout.NORTH);
         add(b2,BorderLayout.SOUTH);
          add(b3,BorderLayout.EAST);
           add(b4,BorderLayout.WEST);
            add(b5,BorderLayout.CENTER);


            setSize(500,300);
            setVisible(true);
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    }
}
public class LayoutLabclass {

    public static void main(String[] args) {
    B b1=new B();
    }

}
```

Output:



PROGRAM 9

Source code:

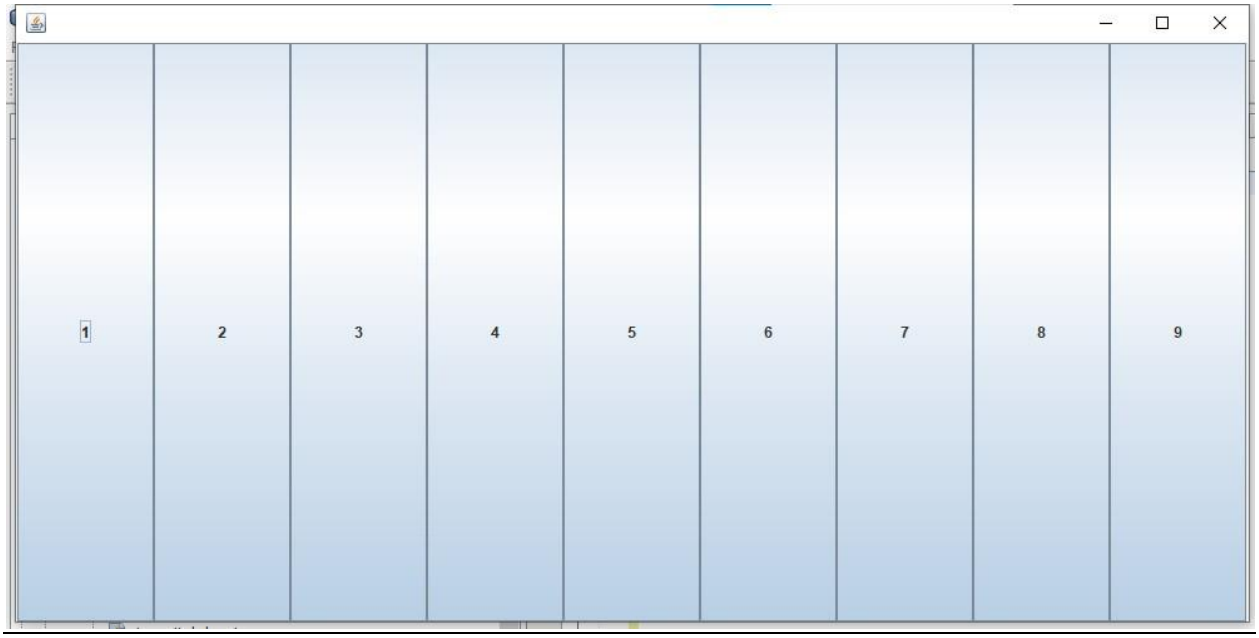
```
package grid.layout.lab.pkgclass;

import javax.swing.*;

import java.awt.*;

public class GridLayoutLAbClass {

    public static void main(String[] args) {

   JFrame f=new JFrame();

   JButton b1=new JButton("1");

   JButton b2=new JButton("2");

   JButton b3=new JButton("3");

   JButton b4=new JButton("4");

   JButton b5=new JButton("5");

   JButton b6=new JButton("6");
```

```
  JButton b7=new JButton("7");
  JButton b8=new JButton("8");
  JButton b9=new JButton("9");
    f.add(b1);
  f.add(b2);
  f.add(b3);
  f.add(b4);
  f.add(b5);
  f.add(b6);
  f.add(b7);
  f.add(b8);
  f.add(b9);

    f.setLayout(new GridLayout());
 f.setSize(1000,500);
          f.setVisible(true);
         f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    }

}
```

Input:

```
package grid.layout.lab.pkgclass;
import javax.swing.*;
import java.awt.*;
public class GridLayoutLAbClass {
    public static void main(String[] args) {
   JFrame f=new JFrame();
   JButton b1=new JButton("1");
   JButton b2=new JButton("2");
   JButton b3=new JButton("3");
   JButton b4=new JButton("4");
   JButton b5=new JButton("5");
   JButton b6=new JButton("6");
   JButton b7=new JButton("7");
   JButton b8=new JButton("8");
   JButton b9=new JButton("9");
   f.add(b1);
   f.add(b2);
   f.add(b3);
   f.add(b4);
   f.add(b5);
   f.add(b6);
   f.add(b7);
   f.add(b8);
   f.add(b9);
f.setLayout(new GridLayout());
 f.setSize(1000,500);
            f.setVisible(true);
           f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    }
}
```

Output:



PROGRAM 10

Source code:

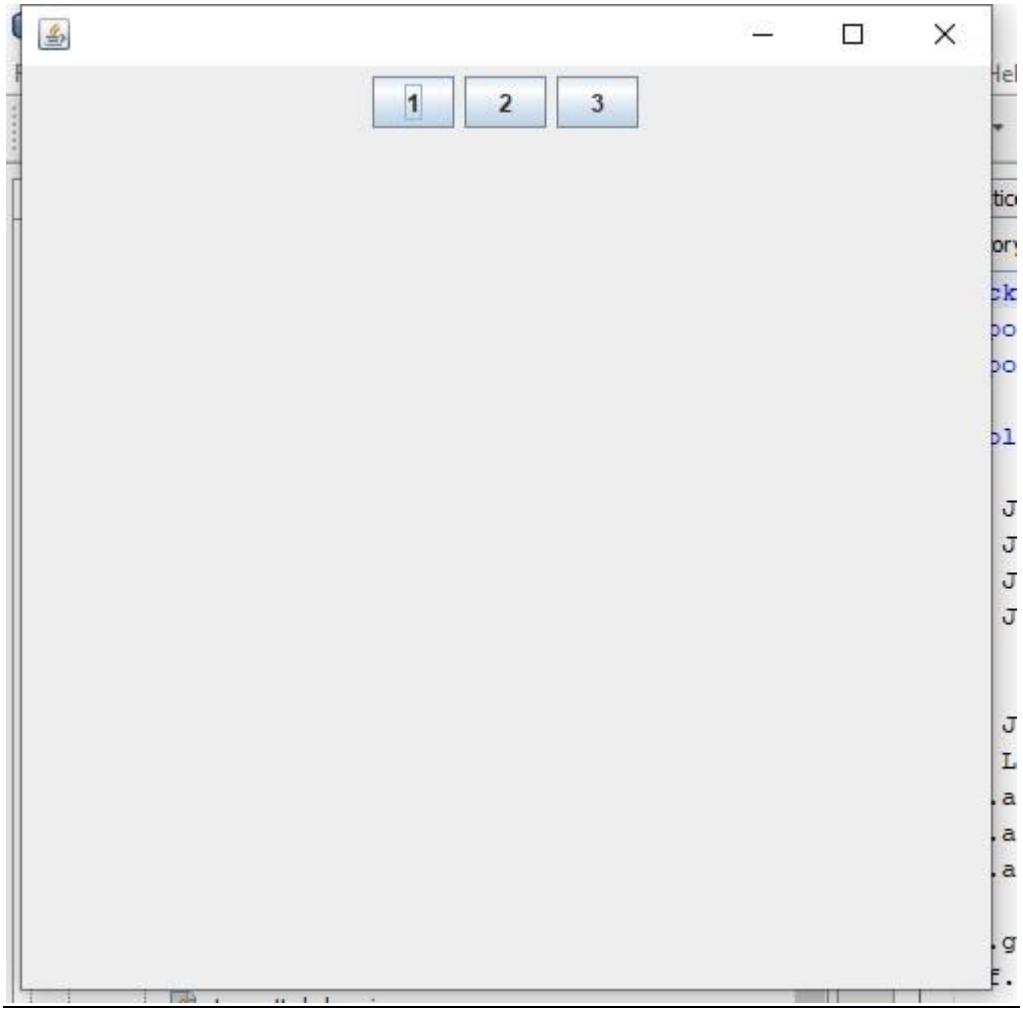
```
package boxlayout.lab.pkgclass;

import javax.swing.*;

import java.awt.*;


public class BoxlayoutLabClass {

    public static void main(String[] args) {

   JFrame f=new JFrame();

   JButton b1=new JButton("1");

   JButton b2=new JButton("2");

   JButton b3=new JButton("3");
```

```
  JPanel p=new JPanel();
  LayoutManager a=new BoxLayout(p,BoxLayout.PAGE_AXIS);
 p.add(b1);
 p.add(b2);
 p.add(b3);

 f.getContentPane().add(p);
  f.setSize(500,500);
          f.setVisible(true);
         f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

         }

}
```

Input:

```
package boxlayout.lab.pkgclass;
import javax.swing.*;
import java.awt.*;

public class BoxlayoutLabClass {
    public static void main(String[] args) {
    JFrame f=new JFrame();
    JButton b1=new JButton("1");
    JButton b2=new JButton("2");
    JButton b3=new JButton("3");


    JPanel p=new JPanel();
    LayoutManager a=new BoxLayout(p,BoxLayout.PAGE_AXIS);
   p.add(b1);
   p.add(b2);
   p.add(b3);

   f.getContentPane().add(p);
    f.setSize(500,500);
              f.setVisible(true);
             f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

             }

}
```

Output:



PROGRAM 11

Source code;

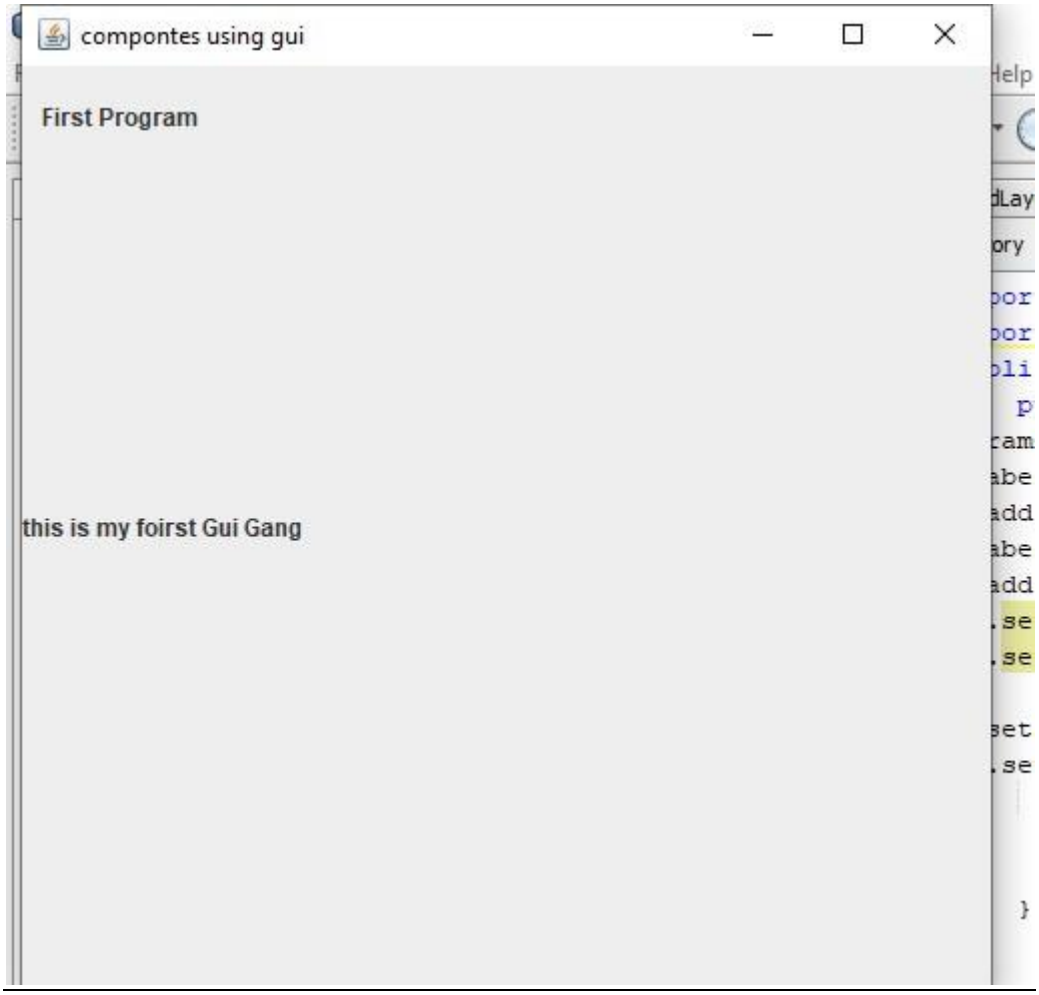
```
package componets.layout.pkg2;

import javax.swing.*;

import java.awt.*;

public class ComponetsLayout2 {

    public static void main(String[] args) {

JFrame f=new JFrame("compontes using gui");
```

```
JLabel l1=new JLabel("First Program");
f.add(l1);
JLabel l2=new JLabel("this is my foirst Gui Gang");
f.add(l2);
l1.setBounds(10, 10, 100, 30);
l2.setBounds(10, 30, 100, 100);

f.setSize(500,500);
 f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);



   }

}
```

Input:

```
import javax.swing.*;
import java.awt.*;
public class ComponetsLayout2 {
    public static void main(String[] args) {
JFrame f=new JFrame("compontes using gui");
JLabel l1=new JLabel("First Program");
f.add(l1);
JLabel l2=new JLabel("this is my foirst Gui Gang");
f.add(l2);
l1.setBounds(10, 10, 100, 30);
l2.setBounds(10, 30, 100, 100);

f.setSize(500,500);
 f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);


    }

}
```

Output:



PROGRAM 12

Source code:

```
package componets.layout3;
import javax.swing.*;
import java.awt.*;
public class ComponetsLayout3 {
    public static void main(String[] args) {
    JFrame f=new JFrame("compontes using gui");
JLabel l1=new JLabel("First Program");
```

```
l1.setBounds(10, 10, 100, 30);
f.add(l1);
JLabel l2=new JLabel("this is my foirst Gui Gang");
l2.setBounds(10, 30, 100, 100);
f.add(l2);
JTextField t1=new JTextField("welcome  GUI");
t1.setBounds(120, 50, 200, 500);
f.add(t1);
JTextArea ta=new JTextArea("sswing ba DSani");
ta.setBounds(130, 50, 200, 500);
f.add(ta);
f.setSize(500,500);
 f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);


   }

}
```

Input:

```
package componets.layout3;
import javax.swing.*;
import java.awt.*;
public class ComponetsLayout3 {
    public static void main(String[] args) {
    JFrame f=new JFrame("compontes using gui");
JLabel l1=new JLabel("First Program");
l1.setBounds(10, 10, 100, 30);
f.add(l1);
JLabel l2=new JLabel("this is my foirst Gui Gang");
l2.setBounds(10, 30, 100, 100);
f.add(l2);
JTextField t1=new JTextField("welcome  GUI");
t1.setBounds(120, 50, 200, 500);
f.add(t1);
JTextArea ta=new JTextArea("sswing ba DSani");
ta.setBounds(130, 50, 200, 500);
f.add(ta);
f.setSize(500,500);
 f.setVisible(true);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);


    }

}
```

Output:

PROGRAM 13

Source code:

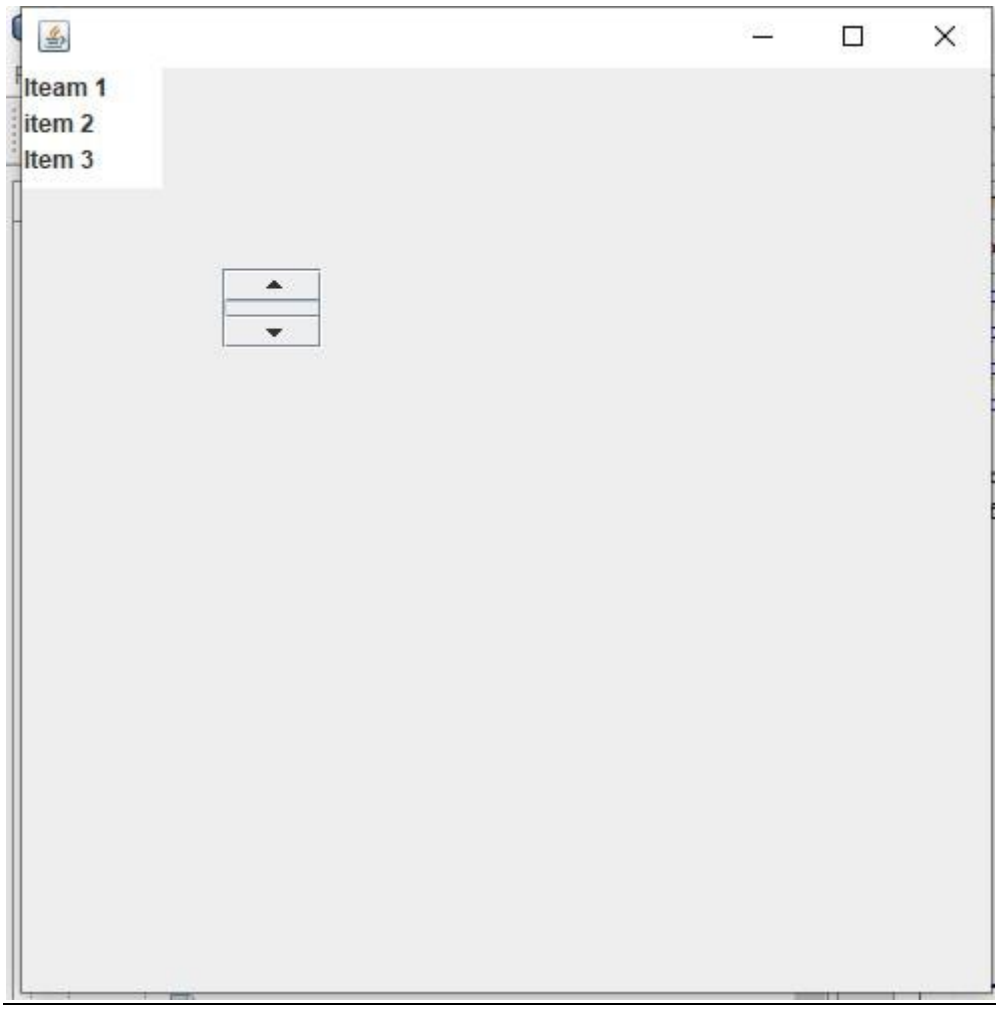
```
package componets.layoout;

import javax.swing.*;

import java.awt.*;

public class ComponetsLayoout {

   public static void main(String[] args) {

JFrame f=new JFrame();

DefaultListModel<String>l1=new DefaultListModel<>();
```

```
  l1.addElement("Iteam 1");
  l1.addElement("item 2");
   l1.addElement("Item 3");
   JList<String>list=new JList(l1);
   list.setBounds(0, 0, 70, 60);
   f.add(list);

   JScrollBar j=new JScrollBar();
   j.setBounds(100, 100, 50, 40);
   f.add(j);
   f.setLayout(null);
  f.setSize(500,500);
 f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

   }

}
```

Input:

```
package componets.layoout;
import javax.swing.*;
import java.awt.*;
public class ComponetsLayoout {
    public static void main(String[] args) {
JFrame f=new JFrame();
DefaultListModel<String>ll=new DefaultListModel<>();
   ll.addElement("Iteam 1");
   ll.addElement("item 2");
    ll.addElement("Item 3");
    JList<String>list=new JList(ll);
    list.setBounds(0, 0, 70, 60);
    f.add(list);

    JScrollBar j=new JScrollBar();
    j.setBounds(100, 100, 50, 40);
    f.add(j);
    f.setLayout(null);
   f.setSize(500,500);
 f.setVisible(true);
          f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    }

}
```

Output:



PROGRAM 14

Source code:

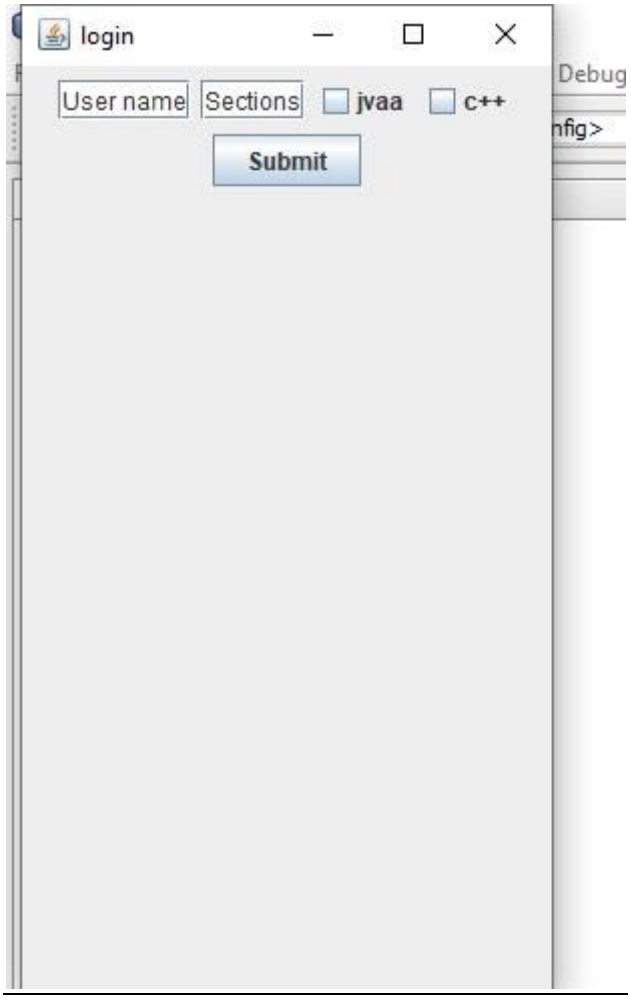
```
package labtask.pkgclass.on.tewlve.dec;


import javax.swing.*;
import java.awt.*;
public class LabTaskClassOnTewlveDEC {


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

```
JFrame f=new JFrame("login");
JTextField t=new JTextField("User name");
JTextField t1=new JTextField("Sections");
JCheckBox b1=new JCheckBox("jvaa");
JCheckBox b2=new JCheckBox("c++");
   JButton b=new JButton("Submit");
   f.add(t);
   f.add(t1);
   f.add(b1);
   f.add(b2);
   f.add(b);
   f.setLayout((new FlowLayout()));
     f.setSize(500,500);
 f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);



   }



}
```

Input:

```
import javax.swing.*;
import java.awt.*;
public class LabTaskClassOnTewlveDEC {

    public static void main(String[] args) {
JFrame f=new JFrame("login");
JTextField t=new JTextField("User name");
JTextField t1=new JTextField("Sections");
JCheckBox b1=new JCheckBox("jvaa");
JCheckBox b2=new JCheckBox("c++");
    JButton b=new JButton("Submit");
    f.add(t);
    f.add(t1);
    f.add(b1);
    f.add(b2);
    f.add(b);
    f.setLayout((new FlowLayout()));
       f.setSize(500,500);
f.setVisible(true);
          f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);


    }
```

Output:


login
User name
Sections
jvaa
c++
Submit
Debug
nfig>