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Java Programming Language

Java class Assignment

**Question 1.**

package student\_name\_and\_roll\_no;

// a class that links main class "student\_name\_and\_roll\_no"

public class Student {

String name;

int roll\_no;

}

package student\_name\_and\_roll\_no;

public class Student\_Name\_and\_Roll\_No {

public static void main(String[] args) {

//calling and initializing the student class

Student stu=new Student();

stu.name="John";

stu.roll\_no=2;

System.out.print("The name of student is " + stu.name + " and the roll number is: " + stu.roll\_no + "\n");

}

}

**Output to the screen**

The name of student is John and the roll number is: 2

**Question 2.**

//a class for triangle

package area\_and\_perimeter\_of\_triangle;

public class Triangle {

int a, b, c;

public double getArea(){

double sum=(a+b+c)/2.0;

return Math.pow((sum\*(sum-a)\*(sum-b)\*(sum-c)),.5);

}

public double getPerimeter(){

return (a+b+c);

}

}

package area\_and\_perimeter\_of\_triangle;

public class Area\_and\_Perimeter\_of\_Triangle {

public static void main(String[] args) {

//calling the class triangle

Triangle tri = new Triangle();

tri.a=3;

tri.b=4;

tri.c=5;

System.out.print("The area of the triangle is: " + tri.getArea() + "\n");

System.out.print("The perimeter of the triangle is: "+ tri.getPerimeter()+ "\n");

}

}

**Output to the screen**

The area of the triangle is: 6.0

The perimeter of the triangle is: 12.0

**Question 3.**

package area\_and\_perimeter\_of\_rectangle;

public class Rectangle {

int len;

int bre;

public Rectangle(int le,int br){

len=le;

bre=br;

}

public int getAreaOfRectangle(){

return len\*bre;

}

public int getPerimeterOfRectangle(){

return 2\*(len\*bre);

}

}

package area\_and\_perimeter\_of\_rectangle;

public class Area\_And\_Perimeter\_of\_Rectangle {

public static void main(String[] args) {

//calling class rectangle and method for (4,5)

Rectangle first\_area\_and\_perimeter=new Rectangle(4,5);

Rectangle second\_area\_and\_perimeter=new Rectangle(5,8);

//print the first numbers(4 and 5)to the screen

System.out.print("The area of the rectangle(4, 5) is: " + first\_area\_and\_perimeter.getAreaOfRectangle()

+"\n" + "and the perimeter is: "+ first\_area\_and\_perimeter.getPerimeterOfRectangle()+ "\n");

//print the second numbers(5 and 8)to the screen

System.out.print("The area of the rectangle(4, 5) is: " + second\_area\_and\_perimeter.getAreaOfRectangle()

+"\n" + "and the perimeter is: "+ second\_area\_and\_perimeter.getPerimeterOfRectangle()+ "\n");

}

}

**Output to the screen**

The area of the rectangle(4, 5) is: 20

and the perimeter is: 40

The area of the rectangle(5, 8) is: 40

and the perimeter is: 80

**Question 4**

package area\_of\_rectangle;

public class Area {

double length, breadth;

public Area(double len, double bre){

length=len;

breadth=bre;

}

public double getArea(){

return length\*breadth;

}

}

package area\_of\_rectangle;

import java.util.Scanner;

public class Area\_Of\_Rectangle {

public static void main(String[] args) {

Scanner input=new Scanner(System.in);

double l, b;

System.out.print("Please enter the length of the rectangle:"+ "\n");

l=input.nextDouble ();

System.out.print("Please enter the breadth of the rectangle:"+ "\n");

b=input.nextDouble ();

Area ar=new Area(l,b);

System.out.print("The area of the rectangle is:" + ar.getArea()+ "\n");

}

}

**Output to the screen**

Please enter the length of the rectangle:

6.2

Please enter the breadth of the rectangle:

3.3

The area of the rectangle is:20.46

**Question 5**

package sum\_diff\_prod\_of\_comp;

public class Complex {

int r, i;

public Complex(int R, int I){

r=R;

i=I;

}

public static Complex sum(Complex a,Complex b){

return new Complex((a.r + b.r),(a.i-b.i));

}

public static Complex diff(Complex a, Complex b){

return new Complex((a.r-b.r),(a.i-b.i));

}

public static Complex prod(Complex a, Complex b){

return new Complex(((a.r\*b.r)-(a.i\*b.i)),((a.r\*b.i)+(a.i\*b.r)));

}

public void printComplex(){

if(r==0 && i !=0){

System.out.print(i + "i");

}

else if(i==0 && r !=0){

System.out.print(r);

}

else {

System.out.print(r + "+" + i + "i" + "\n");

}

}

}

package sum\_diff\_prod\_of\_comp;

import java.util.Scanner;

public class Sum\_diff\_Prod\_Of\_comp {

public static void main(String[] args) {

int a, b,c,d;

Scanner input=new Scanner(System.in);

System.out.print("Please enter the first real number here:"+ "\n");

a=input.nextInt();

System.out.print("Please enter the second real number here:"+ "\n");

b=input.nextInt();

System.out.print("Please enter first imaginary number here:"+ "\n");

c=input.nextInt();

System.out.print("Please enter the second imaginary number here:"+ "\n");

d=input.nextInt();

System.out.print("================================="+ "\n");

Complex rel= new Complex(a,b);

Complex ima=new Complex(c,d);

Complex sm=Complex.sum(rel, ima);

Complex di=Complex.diff(rel, ima);

Complex pr=Complex.prod(rel, ima);

System.out.print("sum"+ "\n");sm.printComplex();

System.out.print("difference"+ "\n");di.printComplex();

System.out.print("product"+ "\n");pr.printComplex();

}

}

**Output to the screen**

Please enter the first real number here:

4

Please enter the second real number here:

5

Please enter first imaginary number here:

9

Please enter the second imaginary number here:

4

=================================

sum

13+1i

difference

-5+1i

product

16+61i

**Question 5**

package roomandatributes;

public class room {

int roomno;

String roomType;

float roomArea;

boolean acMachine;

void setData(int rno, String rt, float area, boolean ac){

roomno = rno;

roomType = rt;

roomArea = area;

acMachine = ac;

}

void displayData(){

System.out.println("The room is:" + roomno);

System.out.println("The room type is:" + roomType);

System.out.println("The room area is:" + roomArea);

String s=(acMachine)? "yes" : "no";

System.out.println("The A/C Machine needed :" + s);

}

}

}

package roomandatributes;

public class RoomAndAtributes {

public static void main(String[] args) {

room room1 = new room();

room1.setData(101, "Deluxe", 240.0, false : true);

room1.displayData();

}

}