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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Programming in Java (course)

Announcements (announcements)

About the Course (https://swayam.gov.in/nd1_noc20_cs08/preview) Ask a Question (forum)

Progress (student/home) Mentor (student/mentor)

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Course outline

How does an NPTEL online course work?

Week 0 :

Week 1 :

Week 2 :

Week 3 :

- Lecture 11 : Java Static Scope Rule (unit?unit=4&lesson=25)
- Lecture 12 : Demonstration-V (unit?unit=4&lesson=26)

Java Week 3: Q3

Due on 2020-02-20, 23:59 IST

A class Shape is defined with two overloading constructors in it. Another class Test1 is partially defined which inherits the class Shape. The class Test1 should include two overloading constructors as appropriate for some object instantiation shown in main( ) method. You should define the constructors using the super class constructors. Also, override the method calculate( ) in Test1 to calculate the volume of a Shape.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	2.0 1.0 1.0	4.0\n 2.0	4.0\n 2.0\n	Passed
Test Case 2	1.0 1.0 1.0	1.0\n 1.0	1.0\n 1.0\n	Passed

Due Date Exceeded.
2 out of 2 tests passed.
You scored 100.0/100.

Your last recorded submission was :

```
1  import java.util.Scanner;
2  class Shape{
3     double length, breadth;
4     Shape(double l, double b){ //Constructor to initialize a Shape object
5        length = l;
6        breadth= b;
7      }
8    Shape(double len){    //Constructor to initialize another Shape object
9       length = breadth = len;
10    }
```

```
  double calculate(){  // To calculate the area of a shape object
    return length * breadth ;
  }
}
public class Test1 extends Shape{


//Create a derived class constructor which can call the one parametrized con
//Create a derived class constructor which can call the two parametrized con
//Override the method calculate() in the derived class to find the volume of

double height;
Test1(double l,double h){

super(l);
height=h;
}
Test1(double l,double b, double h){
super(l,b);
  height=h;

}
double calculate(){
return length*breadth*height;
}
public static void main(String args[]){
    Scanner sc = new Scanner(System.in);//Create an object to read input
    double l=sc.nextDouble(); //Read length
    double b=sc.nextDouble(); //Read breadth
    double h=sc.nextDouble(); //Read height
    Test1 myshape1 = new Test1(l,h);
    Test1 myshape2 = new Test1(l,b,h);
    double volume1;
    double volume2;
    volume1 = myshape1.calculate();
    volume2=myshape2.calculate();
    System.out.println(volume1);
    System.out.println(volume2);
    }
}

```

Sample solutions (Provided by instructor)

Select the Language . Java ▼

```
import java.util.Scanner;
class Shape{
   double length, breadth;
   Shape(double l, double b){ //Constructor to initialize a Shape object
      length = l;
      breadth= b;
    }
  Shape(double len){    //Constructor to initialize another Shape object
     length = breadth = len;
   }
  double calculate(){  // To calculate the area of a shape object
    return length * breadth ;
  }
}
public class Test1 extends Shape{


 double height;
    Test1(double length,double h)
        //base class constructor with one parameter is called
    {
        super(length);
        height=h;
    }

    Test1(double length,double breadth,double h)
        //base class constructor having two argument is called
    {
        super(length,breadth);
        height=h;
    }
```

Assignment Solution

```
32      double calculate()  {   // calculate the volume of the shape
33          return length*breadth*height;
34      }
35
36  public static void main(String args[]){
37      Scanner sc = new Scanner(System.in);//Create an object to read input
38      double l=sc.nextDouble(); //Read length
39      double b=sc.nextDouble(); //Read breadth
40      double h=sc.nextDouble(); //Read height
41      Test1 myshape1 = new Test1(l,h);
42      Test1 myshape2 = new Test1(l,b,h);
43      double volume1;
44      double volume2;
45      volume1 = myshape1.calculate();
46      volume2=myshape2.calculate();
47      System.out.println(volume1);
48      System.out.println(volume2);
49      }
50  }
51
```