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# 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.**

Select the Language for this assignment. Java ▼

File name for this program : Test1.java

```
1  import java.util.Scanner;
2  class Shape{
3     double length, breadth;
4     Shape(double l, double b){ //Constructor to initialize a Sha
5        length = l;
6        breadth= b;
7      }
8    Shape(double len){    //Constructor to initialize another Sha
9       length = breadth = len;
10    }
11   double calculate(){  // To calculate the area of a shape obje
12     return length * breadth ;
13   }
14 }
15 public class Test1 extends Shape{
16
17
20 //Override the method calculate() in the derived class to f.
21 double a,b,c;
22 Test1(double x,double y)
23 {
24   super(x,y);
25   a=x;
26   b=y;
27
28 }
```

```
29 Test1(double x,double y,double z)
30 {
31   super(x,y);
32   c=z;
33 }
34 double calculate(){  // To calculate the area of a shape ob
35     if(c==0)
36     {
37       return super.calculate()*a;
38     }
39   else
40   {
41     return  super.calculate()*c ;
42   }
43
```

```
 0 public static void main(String args[]){
 1     Scanner sc = new Scanner(System.in);//Create an object to r
 2     double l=sc.nextDouble(); //Read length
 3     double b=sc.nextDouble(); //Read breadth
 4     double h=sc.nextDouble(); //Read height
 5     Test1 myshape1 = new Test1(l,h);
 6     Test1 myshape2 = new Test1(l,b,h);
 7     double volume1;
 8     double volume2;
 9     volume1 = myshape1.calculate();
10     volume2=myshape2.calculate();
11     System.out.println(volume1);
12     System.out.println(volume2);
13     }
14 }
15
```

You may submit any number of times before the due date. The final submission will be considered for grading.

**This assignment has Public Test cases. Please click on "Compile & Run" button to see the status of Public test cases. Assignment will be evaluated only after submitting using Submit button below. If you only save as or compile and run the Program , your assignment will not be graded and you will not see your score after the deadline.**

| Save as Draft | Compile & Run | Submit | Reset |
|---|---|---|---|

## Sample Test Cases

| | Input | Output |
|---|---|---|
| Test Case 1 | 2.0 3.0 4.0 | 16.0<br>24.0 |