Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

AY: 2024-25

Class:	SE	Semester:	III
Course Code:		Course Name:	object oriented Programming JAVA.

Name of Student:	Atharva. V. Bore
Roll No. :	07.
Assignment No.:	04
Title of Assignment:	
Date of Submission:	
Date of Correction:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Completeness	5	
Demonstrated Knowledge	3	
Legibility	2	
Total	10	

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Completeness	5	3-4	1-2
Demonstrated Knowledge Legibility	3	2	1
Legibility	2	1	0

Checked by

Name of Faculty :

Signature :

Date :

Java

①

Assignment 4

Q1) interface volume calculatic { import java.io.*; import java.util.*;
double PI = 3.1419
double calculate volume (double radius);
}
class sphere implement volume calculable {
a) override
public double calculate Volume (double radius)
return (4.0/3.0)* p[math pow(radius, 3);
}
}
Class Hemisphere implements volume calculable {
a) override
public double calculate volume (double
return (2.0/3.0) *PI*pow. radius) {
}
}
public class main {
public static void main [String [] args) {
volume calculate sphere = new sphere();
volume calculable hemisphere = new Hemis-
double sphere volume = sphere.calsphere (5);
double hemisphere volume = hemisphere. Calculate
System. out. println ("volume of the volume (radius);
sphere with radius".+
radius +" + sphere volume);
System. out. println ("volume of the Hemisphere
with radius" + radius + is ;" +
hemisphere volume);
}
}

output:

Volume of the sphere with radius 50 is 523.5987333
Volume of the Hemisphere with radius 5.0 is
261.79916666

(92) class Rectangle {
private double length;
private double width;
public Rectangle () {
this.length = 1.0;
this.width = 1.0;
}
public Rectangle (double length, double width) {
this.length = length;
this.width = width;
}
public double area ();
return length width;
}
}
class cube {
private double side;
public cube () {
this side = 1.0;
}
public cube (double side) {
this side = side;
}

```
public double volume(){
return math.pow(side, 3);
  }
  }
class size{
 public double size(Object z){
 if (z instance of Rectangle){
  Rectangle rect = (Rectangle) z;
  return rect.area();
 }
  else if (z instance of cube){
  Cube cube = (cube z;)
  return cube.volume();
  } else{
     return -1;
   }
 }
  Public static void main (String args[]){
Rectangle rect1 = new rectange();
  Rectangle rect2 = new Rectangle (40, 30};
  Cube.cube C = new cube();
Size size calculator = new size().
System.out println("Area of default rectangle:")
  size calculator size (rect1);
System.out.println("Area of parameterize
                    rectangle "+size calculator2
                      (rect2);
System.out.println("Volume of default cube:
        Size Calculator size (cube1));
System.out.println("volume of pasameterized
                    FOR EDUCATIONAL USE
                    cube + size calculat
                    size);
```

(10)

```
String Test obj = "Test string";
System.out.println("size of other object(String):
        + size calculator(test obj));
}
}
```

output:

Area of default rectangle : 1.0
Area of parameterize rectangle : 20.0
volume of default cube : 1.0
Volume of parameterize cube : 27.0
Size of other object (String) : 1.0.