Java with OOP – Abstract class and Abstract methods

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**Abstract class and abstract methods**

The Volume of a Cylinder can be found with the following formula:

Volume = PI \* Radius\*Radius\*Height where PI=3.14159

It is required to map the above class diagram to Java code.

Note : Container is an abstract class.

Height & Radius are private variables

All the methods are public

1. (i) Write down the Java definition of class container
2. (ii) Write the Java Definition of class CylindricalContainer. (Implement the Methods)
3. (iii) Create an object from CylindricalContainer and display the volume.

package com.company.shapevolume;

public abstract class Container {

public abstract double volume();

}

package com.company.shapevolume;

public class CylindricalContainer extends Container {

private double Height,Radius;

public CylindricalContainer(double H,double R){

Height = H;

Radius = R;

}

public double volume(){

return 3.14159 \* Radius\*Radius\*Height;

}

}

package com.company.shapevolume;

public class ShapeVolume {

public static void main(String[] args) {

CylindricalContainer vv = new CylindricalContainer(7.50,10.50);

System.out.println("The volume of cilinder is " + vv.volume());

}

}