

# Question 01

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. Write down the Java definition of class container

package com.mycompany.test02;

public interface Cnotainer {

double PI=3.14159;

double volume();

}

1. Write the Java Definition of class CylindricalContainer. (Implement the Methods)

package com.mycompany.test02;

public class CylindricalContainer implements Cnotainer{

private double height;

private double radius;

public CylindricalContainer(double height,double radius )

{

this.height=height;

this.radius=radius;

}

public double getH()

{

return height;

}

public double getR()

{

return radius;

}

public void setH(double height)

{

this.height=height;

}

public void setR(double radius)

{

this.radius=radius;

}

public double volume()

{

double a=PI\*radius\*radius;

return a\*height;

}

}

1. Create an object from CylindricalContainer and display the volume.

package com.mycompany.test02;

public class Test02 {

public static void main(String[] args) {

CylindricalContainer cc=new CylindricalContainer(22,14);

System.out.println("volume: "+cc.volume());

}

}

# Question 02

A Student wants to create a game called “Life”, ‘life’ is a RPG game in which a player can move up, down, left & Right. In order to implement this game assume that you need to create an abstraction of the player controllers. Make sure to print the directions of the player when keys are pressed.

package com.mycompany.test02;

public interface PlayerController {

void moveup();

void movedown();

void moveleft();

void moveright();

}

package com.mycompany.test02;

public class LifeGame {

public void moveup()

{

System.out.println("Player move up");

}

public void movedown()

{

System.out.println("Player move down");

}

public void moveleft()

{

System.out.println("Player move left");

}

public void moveright()

{

System.out.println("Player move right");

}

}

package com.mycompany.test02;

public class Test02 {

public static void main(String[] args) {

LifeGame Lg=new LifeGame();

Lg.moveup();

Lg.movedown();

Lg.moveleft();

Lg.moveright();

}

}