**Q.Develop a java program to create an abstract class named shape that contains two integers and an empty method named area(). Provide three classes named Rectangle,Triangle and Circle such that each one of the classes extends the class shape.Each one of the classes contains only the method area that prints the area of the given shape.**

import java.util.\*;

abstract class Dimension{

// Dimension(int x,int y)

// {

// dim1=x;

// dim2=y;

// }

abstract double area();

}

class Rectangle extends Dimension

{

int l,b;

Rectangle(int x,int y){

l=x;

b=y;

}

double area()

{

return(l\*b);

}

}

class Triangle extends Dimension{

int base,height;

Triangle(int x,int y){

base=x;

height=y;

}

double area(){

return(0.5\*base\*height);

}

}

class Circle extends Dimension{

int radius;

Circle(int r)

{

radius=r;

}

double area(){

return(3.14\*radius\*radius);

}

}

class Abst{

public static void main(String args[])

{

int dim1,dim2,l,b,r;

Scanner sc= new Scanner(System.in);

System.out.println("Enter the dimensions for the rectangle:");

System.out.println("First:");

dim1=sc.nextInt();

System.out.println("Second:");

dim2=sc.nextInt();

Rectangle R1 = new Rectangle(dim1, dim2);

Dimension D;

D=R1;

double A1 = D.area();

System.out.println("\n-------------------\nArea of the rectangle:"+A1);

System.out.println("\nEnter the dimensions for the Triangle:");

System.out.println("First:");

l=sc.nextInt();

System.out.println("Second:");

b=sc.nextInt();

Triangle T1 = new Triangle(l, b);

D=T1;

double A2 = D.area();

System.out.println("Area of the Triangle:"+A2);

System.out.println("\nEnter the radius for the Circle:");

r=sc.nextInt();

Circle C1 = new Circle(r);

D=C1;

double A3 = D.area();

System.out.println("Area of the Circle:"+A3);

sc.close();

}

}

**Output:**

