# Practical No:12

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**Objective:** WAP to find the area of rectangle, circle and a triangle implementing an interface Shape having abstract method area().

# Code :

import java.util.Scanner;

interface Shape {

abstract void area();

}

class Circle implements Shape{

float a, ar;

Circle(){

Scanner sc= new Scanner(System.in);

System.out.print("Enter the radius of the circle: ");

a=sc.nextFloat();

area();

}

public void area(){

ar= 3.142f\*a\*a;

System.out.println("The area of the circle is: "+ ar + "\n\n");

}

}

class Rectangle implements Shape{

float a, b, ar;

Rectangle(){

Scanner sc= new Scanner(System.in);

System.out.print("Enter the length of the rectangle: ");

a=sc.nextFloat();

System.out.print("Enter the breadth of the rectangle: ");

b=sc.nextFloat();

area();

}

public void area(){

ar= b\*a;

System.out.println("The area of the rectangle is: "+ ar+ "\n\n");

}

}

class Triangle implements Shape{

float a, b, ar;

Triangle(){

Scanner sc= new Scanner(System.in);

System.out.print("Enter the base of the triangle: ");

a=sc.nextFloat();

System.out.print("Enter the height of the triangle: ");

b=sc.nextFloat();

area();

}

public void area(){

ar= 0.5f\*b\*a;

System.out.println("The area of the triangle is: "+ ar+ "\n\n");

}

}

/\*\*

\* \_01\_Area\_Using\_Interface

\*/

public class \_01\_Area\_Using\_Interface {

public static void main(String[] args) {

Circle obj1= new Circle();

Rectangle obj2= new Rectangle();

Triangle obj3= new Triangle();

}

}

# Output:

PS E:\03 Semester\Java\Assignments\Assignment\_05\_nov22> cd "e:\03 Semester\Java\Assignments\Assignment\_05\_nov22\" ; if ($?) { javac \_01\_Area\_Using\_Interface.java } ; if ($?) { java \_01\_Area\_Using\_Interface }

Enter the radius of the circle: 2

The area of the circle is: 12.568

Enter the length of the rectangle: 4

Enter the breadth of the rectangle: 5

The area of the rectangle is: 20.0

Enter the base of the triangle: 6

Enter the height of the triangle: 2

The area of the triangle is: 6.0