

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