

**Aim:**

Write a Java Program to demonstrate **Interface** concept (Implementation **Multiple inheritance** using interface), Implement necessary methods to calculate the Area of circle, Perimeter of the circle and getColor method to return the color and the main method has been provided.

**Source Code:**`q27463/MultipleInheritance.java`

```
package q27463;
import java.util.Scanner;
interface Shape {
    double calculateArea();
    double calculatePerimeter();
}
interface Color {
    String getColor();
}
class Circle implements Shape, Color {
    private double radius;
    private String color;
    //write your code here
    Circle(double radius, String color){
        this.radius = radius;
        this.color = color;
    }
    public double calculateArea(){
        return (Math.PI*radius*radius);
    }
    public double calculatePerimeter(){
        return (2*Math.PI*radius);
    }
    public String getColor(){
        return color;
    }
}
public class MultipleInheritance {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Radius of the circle: ");
        double radius = scanner.nextDouble();
        scanner.nextLine();
        System.out.print("Color of the circle: ");
        String color = scanner.nextLine();
        Circle circle = new Circle(radius, color);
        System.out.println("Circle Area: " + circle.calculateArea());
        System.out.println("Circle Perimeter: " + circle.calculatePerimeter());
        System.out.println("Circle Color: " + circle.getColor());
        scanner.close();
    }
}
```

## Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Radius of the circle: 2.0
Color of the circle: red
Circle Area: 12.566370614359172
Circle Perimeter: 12.566370614359172
Circle Color: red

Test Case - 2
User Output
Radius of the circle: 5.0
Color of the circle: violet
Circle Area: 78.53981633974483
Circle Perimeter: 31.41592653589793
Circle Color: violet

Test Case - 3
User Output
Radius of the circle: 3.0
Color of the circle: blue
Circle Area: 28.274333882308138
Circle Perimeter: 18.84955592153876
Circle Color: blue