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package classes;

public class Circle extends GeometricObject implements Comparable {
    public Circle() {
        this.radius = 1;
        this.color = "White";
        this.is_filled = false;
    }

    public Circle(double radius) {
        this.radius = radius;
        this.color = "White";
        this.is_filled = false;
    }

    public Circle(double radius, String color, boolean is_filled) {
        this.radius = radius;
        this.color = color;
        this.is_filled = is_filled;
    }

    @Override
    public double getArea() {
        return Math.PI * (this.radius * this.radius);
    }

    @Override
    public double getPerimeter() {
        return 2 * Math.PI * this.radius;
    }

    @Override
    public int compareTo(Comparable comparable) {
        if (!(comparable instanceof Circle circle)) return 0;
        if (this.getArea() > circle.getArea()) return 1;
        else if (this.getArea() < circle.getArea()) return -1;
        return 0;
    }

    public double getDiameter() {
        return this.radius * 2;
    }

    private double radius;

    public double getRadius() {
        return this.radius;
    }

    public void setRadius(double radius) {
        this.radius = radius;
    }
}

```