

```
1  /**
2   * Circle is a child of AbstractShape and Shape.
3   *
4   * @author (Dennis Pavlyuk & Kurt Mueller)
5   * @version (9/12/19)
6   */
7  public class Circle extends AbstractShape
8  {
9      private double radius;
10     protected static int numCirclesCreated = 0;
11
12     public Circle(double rad) //constructor
13     {
14         radius = rad;
15         incrementNumCirclesCreated();
16         incrementNumShapesCreated();
17     }
18
19     public double area()
20     {
21         double area = Math.PI * radius * radius;
22         return area;
23     }
24
25     public double perimeter()
26     {
27         double perimeter = 2 * Math.PI * radius;
28         return perimeter;
29     }
30
31     public double volume()
32     {
33         return 0.0;
34     }
35
36     public void incrementNumCirclesCreated()
37     {
38         numCirclesCreated++;
39     }
40
41     public void incrementNumShapesCreated()
42     {
43         numShapesCreated++;
44     }
45 }
```