

```
1  /**
2   * Cuboid is a child of AbstractShape, Shape, and ThreeDShape.
3   *
4   * @author (Dennis Pavlyuk & Kurt Mueller)
5   * @version (9/12/19)
6   */
7  public class Cuboid extends AbstractShape
8  {
9      private double length, width, height;
10     protected static int numCuboidsCreated = 0;
11
12     //constructor
13     public Cuboid(double len, double wid, double hi){
14         length = len;
15         width = wid;
16         height = hi;
17         incrementNumCuboidsCreated();
18         incrementNumShapesCreated();
19     }
20
21     //calculate the surface area
22     public double area(){
23         double area = 2*(length*width + width*height + height*length);
24         return area;
25     }
26
27     //assume perimeter to be always 0.0
28     public double perimeter(){
29         return 0.0;
30     }
31
32     //calculate the volume
33     public double volume(){
34         double volume = length*width*height;
35         return volume;
36     }
37
38     public void incrementNumCuboidsCreated()
39     {
40         numCuboidsCreated++;
41     }
42
43     public void incrementNumShapesCreated()
44     {
45         numShapesCreated++;
46     }
47 }
```