

```
1 package lab07;
2
3 import java.util.Scanner;
4
5 public class Volume {
6
7     private double dLength, dWidth, dHeight, dRadius;
8     private String sShape;
9     private static double dPI;
10
11     static int countObject;
12
13
14     static {
15         System.out.println("Static block...");
16         dPI = Math.PI;
17     }
18
19     Volume() {
20         System.out.println("Zero param.");
21     }
22
23     Volume(String shape) {
24         this(shape, rand(), rand(), rand(), rand());
25         System.out.println("One param.");
26     }
27
28     Volume(String shape, double length, double width, double height, double radius) {
29         sShape = shape.toUpperCase();
30         dLength = length;
31         dWidth = width;
32         dHeight = height;
33         dRadius = radius;
34         if (sShape.equals("CUBE")) {
35             dLength = dWidth = dHeight = length;
36             dRadius = 0;
37         }
38         Volume.countObject++;
39     }
40
41     double calVolume() {
42         return 0;
43     }
44
45     static double read(String msg) {
46         Scanner scanner = new Scanner(System.in);
47         System.out.println(msg);
48         return scanner.nextDouble();
49     }
50
51     static double rand() {
52         return Math.round((Math.random() * (10 - 1) + 1)*100) / 100D;
53     }
54
55     public double getdLength() {
56         return dLength;
57     }
```

```
58
59     public void setdLength(double dLength) {
60         this.dLength = dLength;
61     }
62
63     public double getdWidth() {
64         return dWidth;
65     }
66
67     public void setdWidth(double dWidth) {
68         this.dWidth = dWidth;
69     }
70
71     public double getdHeight() {
72         return dHeight;
73     }
74
75     public void setdHeight(double dHeight) {
76         this.dHeight = dHeight;
77     }
78
79     public double getdRadius() {
80         return dRadius;
81     }
82
83     public void setdRadius(double dRadius) {
84         this.dRadius = dRadius;
85     }
86
87     public String getsShape() {
88         return sShape;
89     }
90
91     public void setsShape(String sShape) {
92         this.sShape = sShape;
93     }
94
95     public static int getCountObject() {
96         return countObject;
97     }
98
99     public static void setCountObject(int countObject) {
100         Volume.countObject = countObject;
101     }
102
103     public static double getdPI() {
104         return dPI;
105     }
106
107     public static void setdPI(double dPI) {
108         Volume.dPI = dPI;
109     }
110
111     double getVolume() {
112         double vol = switch(sShape) {
113             default -> 0;
114             case "CUBE" -> dLength * dWidth * dHeight;
```

```
115         case "CUBOID" -> dLength * dWidth * dHeight;
116         case "SPHERE" -> 4D/3D * dPI * dRadius * dRadius * dRadius;
117         case "CYLINDER" -> dPI * dRadius * dRadius * dHeight;
118         case "CONE" -> 1D/3D * dPI * dRadius * dRadius * dHeight;
119     };
120
121     return Math.round(vol * 100) / 100D;
122 }
123
124 @Override
125 public String toString() {
126     return "Volume [Volume="+getVolume()+", dLength=" + dLength + ", dWidth=" + dWidth +
127     ", dHeight=" + dHeight + ", dRadius=" + dRadius
128     + ", sShape=" + sShape + ", countObjects="+ Volume.countObject+"]";
129 }
130
131 }
132
```