

```

1  import java.util.Scanner;
2  import java.lang.Math;
3
4  abstract class Solid
5  {
6      int side1,side2;
7      abstract void area();
8      abstract void volume();
9  }
10
11  class cylinder extends Solid
12  {
13      cylinder(int h, int r)
14      {
15          side1=h;
16          side2=r;
17          area();
18          volume();
19      }
20
21      void area()
22      {
23          double Area;
24          Area=2*3.14*side2*(side2+side1);
25          System.out.println("The Area of the cylinder is: "+Area);
26      }
27
28      void volume()
29      {
30          double Volume;
31          Volume=3.14*side2*side2*side1;
32          System.out.println("The Volume of the cylinder is: "+Volume);
33      }
34  }
35

```

github.com/ishika22love/oop-java/blob/master/week8\_extra\_programs/FigureMain.java#L57



```
16 class cone extends Solid
17 {
18     cone(int h, int r)
19     {
20         side1=h;
21         side2=r;
22         area();
23         volume();
24     }
25
26     void area()
27     {
28         double Area;
29         Area=3.14*side2*(side2+Math.sqrt(side1*side1+side2*side2));
30         System.out.println("The Area of the cone is: "+Area);
31     }
32
33     void volume()
34     {
35         double Volume;
36         Volume=(3.14*side2*side2*side1)/3;
37         System.out.println("The Volume of the cone is: "+Volume);
38     }
39 }
40 class sphere extends Solid
41 {
42     sphere(int r)
43     {
44         side1=r;
45         area();
46         volume();
47     }
48
49     void area()
50     {
```

```
65     volume();
66 }
67
68 void area()
69 {
70     double Area;
71     Area=4*3.14*side1*side1;
72     System.out.println("The Area of the sphere is: "+Area);
73 }
74
75 void volume()
76 {
77     double Volume;
78     Volume=(4*3.14*side1*side1*side1)/3;
79     System.out.println("The Volume of the sphere is: "+Volume);
80 }
81
82 }
83
84 class FigureMain
85 {
86     public static void main(String args[])
87     {
88         cylinder c1=new cylinder(10,15);
89         cone cn=new cone(10,20);
90         sphere sp=new sphere(10);
91     }
92 }
```