

shapeMain.java > shapeMain

```
1  import java.util.Scanner;
2  import java.lang.Math;
3
4  abstract class Shape {
5      int c, d;
6
7      Shape(int a, int b) {
8          this.c = a;
9          this.d = b;
10     }
11
12     Shape(int a) {
13         this.c = a;
14     }
15
16     abstract void printArea();
17 }
18
19
20 class Rectangle extends Shape {
21     Rectangle(int a, int b) {
22         super(a, b);
23     }
24
25     void printArea() {
26         System.out.println("Area of rectangle is: " + c * d);
27     }
28 }
29
30 class Triangle extends Shape {
31     Triangle(int a, int b) {
32         super(a, b);
33     }
34 }
```

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27     }
28 }
29
30 class Triangle extends Shape {
31     Triangle(int a, int b) {
32         super(a, b);
33     }
34
35     void printArea() {
36         System.out.println("Area of triangle is: " + c * d / 2);
37     }
38 }
39
40 class Circle extends Shape {
41     Circle(int a) {
42         super(a);
43     }
44
45     void printArea() {
46         System.out.println("Area of circle is: " + Math.PI * Math.pow(c, 2));
47     }
48 }
49
50 public class shapeMain {
51     Run | Debug
52     public static void main(String[] args){
53         Scanner sc = new Scanner(System.in);
54         Shape s;
55         System.out.println("Enter dimensions of rectangle:");
56         int len = sc.nextInt();
57         int br = sc.nextInt();
58         Rectangle r = new Rectangle(len, br);
59         System.out.println("Enter dimensions of triangle:");
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50 public class shapeMain {
51     Run | Debug
52     public static void main(String[] args){
53         Scanner sc = new Scanner(System.in);
54         Shape s;
55         System.out.println("Enter dimensions of rectangle:");
56         int len = sc.nextInt();
57         int br = sc.nextInt();
58         Rectangle r = new Rectangle(len, br);
59         System.out.println("Enter dimensions of triangle:");
60         int b = sc.nextInt();
61         int h = sc.nextInt();
62         Triangle t = new Triangle(b, h);
63         System.out.println("Enter radius of circle:");
64         int rad = sc.nextInt();
65         Circle c = new Circle(rad);
66         s = r;
67         s.printArea();
68         s = t;
69         s.printArea();
70         s = c;
71         s.printArea();
72     }
73 }
```

```
E:\jdk8\bin\ooj lab>java shapeMain
Enter dimensions of rectangle:
4 6
Enter dimensions of triangle:
6 3
Enter radius of circle:
3
Area of rectangle is: 24
Area of triangle is: 9
Area of circle is: 28.274333882308138
```