



```
1  import java.util.Scanner;
2  import java.lang.Math;
3
4  abstract class Shape {
5      int a, b;
6
7      Shape(int a, int b) {
8          this.a = a;
9          this.b = b;
10     }
11
12     Shape(int a) {
13         this.a = 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: " + a * b);
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: " + a * b / 2);
37     }
38 }
```

```
Shape.java
1  import java.util.Scanner;
2  import java.lang.Math;
3
4  abstract class Shape {
5      int a, b;
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31     Triangle(int a, int b) {
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34
35     void printArea() {
36         System.out.println("Area of triangle is: " + a * b / 2);
37     }
38 }
```

```
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(a, 2));
47     }
48 }
49
50 public class Lab4 {
51     Run | Debug
52     public static void main(String[] args) {
53         Scanner sc = new Scanner(System.in);
54         Shape s;
55         Rectangle r = new Rectangle(4, 10);
56         Triangle t = new Triangle(6, 3);
57         Circle c = new Circle(3);
58         s = r;
59         s.printArea();
60         s = t;
61         s.printArea();
62         s = c;
63         s.printArea();
64     }
65 }
```

Windows PowerShell

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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS C:\Users\Chaya Shetty\Desktop\jv> **javac** Lab4.java

PS C:\Users\Chaya Shetty\Desktop\jv> **java** Lab4

Area of rectangle is: 40

Area of triangle is: 9

Area of circle is: 28.274333882308138

PS C:\Users\Chaya Shetty\Desktop\jv> █