

Problem4

EXPLORER

OPEN EDITORS

- Welcome
- Scalable.java
- Shape.java
- Circle.java
- Ellipse.java
- Triangle.java
- EquilateralTriangle...
- Demo4.java

JAVA PROJECTS

Demo4.java > ...

```
1 // Demo4.java
2 // Demonstrates scaling different shapes
3 public class Demo4 {
4     public static void main(String[] args) {
5         // Create objects of different shapes
6         Scalable ellipse1 = new Ellipse(name:"Ellipse1", majorAxis:10.0, minorAxis:5.0);
7         Scalable ellipse2 = new Ellipse(name:"Ellipse2", majorAxis:20.0, minorAxis:10.0);
8         Scalable circle1 = new Circle(name:"Circle1", radius:7.0);
9         Scalable circle2 = new Circle(name:"Circle2", radius:15.0);
10        Scalable triangle1 = new Triangle(name:"Triangle1", sideA:3.0, sideB:4.0, sideC:5.0);
11        Scalable triangle2 = new Triangle(name:"Triangle2", sideA:6.0, sideB:8.0, sideC:10.0);
12        Scalable eqTriangle1 = new EquilateralTriangle(name:"EquilateralTriangle1", side:6.0);
13        Scalable eqTriangle2 = new EquilateralTriangle(name:"EquilateralTriangle2", side:10.0);
14
15        // Store them in a Scalable array
16        Scalable[] shapes = { ellipse1, ellipse2, circle1, circle2, triangle1, triangle2, eqTriangle1, eqTriangle2 };
17
18        // Print shapes before scaling
19        System.out.println("Shapes before scaling:");
20        for (Scalable shape : shapes) {
21            System.out.println(shape);
22        }
23
24        // Scale all shapes by a factor of 1.5
25        scaleAllShapes(shapes, factor:1.5);
26
27        // Print shapes after scaling
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

Run: Demo4

Ellipse2 - Area: 628.3185307179587, Perimeter: 96.88421097671288
Circle1 - Area: 153.93804002589989, Perimeter: 43.982207150257104
Circle2 - Area: 706.8583470577034, Perimeter: 94.24777960769379
Triangle1 - Area: 6.0, Perimeter: 12.0
Triangle2 - Area: 24.0, Perimeter: 24.0
EquilateralTriangle1 - Area: 15.588457268119894, Perimeter: 18.0
EquilateralTriangle2 - Area: 43.30127018922193, Perimeter: 30.0

Shapes after scaling:
Ellipse1 - Area: 353.4291735288517, Perimeter: 72.66315823253466
Ellipse2 - Area: 1413.7166941154069, Perimeter: 145.3263164650693
Circle1 - Area: 346.36059005827477, Perimeter: 65.97344572538566
Circle2 - Area: 1590.4312808798327, Perimeter: 141.3716694115407
Triangle1 - Area: 13.5, Perimeter: 18.0
Triangle2 - Area: 54.0, Perimeter: 36.0
EquilateralTriangle1 - Area: 35.074028853269766, Perimeter: 27.0
EquilateralTriangle2 - Area: 97.42785792574934, Perimeter: 45.0

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