

```
Employee.java x HourlyEmployee.java x CommissionEmployee.java x BasePlusCommissionEmployee.java x SalariedEmployee.java x PayrollSystemTest.java x
Source History
26      new BasePlusCommissionEmployee(
27          "Bob", "Lewis", "444-44-4444", 5000, .04, 300);
28
29      // add a new employee to the array
30      CommissionEmployee newEmployee =
31          new CommissionEmployee("Reetz", "Limonta", "555-55-5555", 5000, .05);
32      Employee[] employees = {salariedEmployee, hourlyEmployee, commissionEmployee,
33          basePlusCommissionEmployee, newEmployee};
34
35      System.out.println("Employees processed individually:");
36
37      System.out.printf("%s\n%s: $%,.2f\n\n",
38          salariedEmployee, "earned", salariedEmployee.earnings());
39      System.out.printf("%s\n%s: $%,.2f\n\n",
40          hourlyEmployee, "earned", hourlyEmployee.earnings());
41      System.out.printf("%s\n%s: $%,.2f\n\n",
42          commissionEmployee, "earned", commissionEmployee.earnings());
43      System.out.printf("%s\n%s: $%,.2f\n\n",
44          basePlusCommissionEmployee,
45          "earned", basePlusCommissionEmployee.earnings());
46      System.out.printf("%s\n%s: $%,.2f\n\n",
47          newEmployee, "earned", newEmployee.earnings());
48
49      System.out.println("Employees whose earnings are $600 or less:");
50      for (Employee employee : employees) {
51          if (employee.earnings() <= 600.0) {
52              System.out.println(employee);
53          }
54      }
55
56
57
```

<https://github.com/ReetzL/PayRollSystem>

The screenshot shows an IDE with several tabs open: Shape.java, TwoDimensionalShape.java, ThreeDimensionalShape.java, Circle.java, Square.java, Sphere.java, Cube.java, and TestShapes.java. The 'TestShapes.java' tab is active, displaying the following code:

```
1  * To change this license header, choose License Headers in Project Properties.
2  * To change this template file, choose Tools | Templates
3  * and open the template in the editor.
4  */
5
6  package com.mycompany.shapehierarchy;
7
8  /**
9   *
10   * @author behlt
11   */
12  public class TestShapes {
13      public static void main(String[] args) {
14          Shape[] shapes = new Shape[4];
15          shapes[0] = new Circle(3.0);
16          shapes[1] = new Square(4.0);
17          shapes[2] = new Sphere(2.0);
18          shapes[3] = new Cube(2.5);
19
20          for (Shape shape : shapes) {
21              System.out.println(shape);
22              if (shape instanceof TwoDimensionalShape) {
23                  System.out.printf("Area: %.2f\n", ((TwoDimensionalShape) shape).getArea());
24              } else if (shape instanceof ThreeDimensionalShape) {
25                  System.out.printf("Surface area: %.2f\n", ((ThreeDimensionalShape) shape).getArea());
26                  System.out.printf("Volume: %.2f\n", ((ThreeDimensionalShape) shape).getVolume());
27              }
28              System.out.println();
29          }
30      }
31  }
```

The 'Output' window at the bottom shows the execution results:

```
PayRollSystem - D:\Netbeans\PayRollSystem x Run (ShapeHierarchy) x
Circle with radius 3.00
Area: 28.27

Square with side 4.00
Area: 16.00

Sphere with radius 2.00
Surface area: 50.27
Volume: 33.51

Cube with side 2.50
Surface area: 37.50
```

[https://github.com/ReetzL/RL\\_ShapeHierarchy.git](https://github.com/ReetzL/RL_ShapeHierarchy.git)