

Background for Assignment #3

The intention of assignment #3 is to ensure people understand the conceptional and applied aspects related to inheritance and polymorphism, both of which are needed for this assignment.

To help everyone get started, I have provided a sample driver and sample run, below. Please note that this is not the most solid/robust program -- there are many holes -- the intention is to test the implementation of the Employee, Manager, and Executive classes.

For this assignment in particular, please focus on creating the Employee, Manager and Executive classes to support the driver program displayed below.

```
public class useEmployee
{
    public static void main(String[] args)
    {
        Employee[] employees = new Employee[100];

        employees[0] = new Employee(5950, "Fred Yates", 37, 360000.00, "MTS 3", "Scientists");
        employees[1] = new Manager(1215, "Amanda Deleon", 53, 225000.00, "Manager Level 3", "Research and Development");
        employees[2] = new Employee(6120, "Susan B. Anthony", 37, 360000.00, "MTS 3", "Engineers");
        employees[3] = new Employee(8978, "Tyron Rothschild", 23, 42000.00, "MTS 1", "Engineers");
        employees[4] = new Executive(2, "Baron Rothschild", 79, 500000.00, "Chairman", "Engineers", 0.15);

        ((Manager)(employees[1])).addEmployee(employees[0]);
        ((Manager)(employees[1])).addEmployee(employees[2]);
        ((Manager)(employees[1])).addEmployee(employees[3]);

        System.out.println("Amanda's direct reports: ");
        ((Manager)(employees[1])).printEmployeeList(); // why not use toString() here?

        System.out.println("\n--- All Employees ---\n");

        int i = 0;

        // employees[0].changeSalary(employees, 8978, 25000); ** OLD STYLE ** Why is this not optimal?

        employees[3].changeSalary(25000);

        while (employees[i] != null)
            System.out.println(employees[i++]);
    }
}
```

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Please be sure you can answer the two questions above.  
\*\*\*\*\*

Sample run:

```
Amanda's direct reports:

    Fred Yates
    5950
    37
    360000.0
    MTS 3
    Scientists

    Susan B. Anthony
    6120
    37
    360000.0
    MTS 3
    Engineers

    Tyron Rothschild
    8978
    23
    42000.0
    MTS 1
    Engineers

--- All Employees ---

    Fred Yates
    5950
    37
    360000.0
    MTS 3
    Scientists

    Amanda Deleon
    1215
    53
    225000.0
    Manager Level 3
    Research and Development

    Susan B. Anthony
    6120
    37
    360000.0
    MTS 3
    Engineers

    Tyron Rothschild
    8978
    23
    67000.0
    MTS 1
    Engineers

    Baron Rothschild
    2
    79
    500000.0
    Chairman
    Engineers
    0.15
```

- Notes:
- a. If your program can support the functionality required to run the driver program displayed above you will obtain full credit for this assignment.
  - b. We will go over this program and the related assignment (#3) in class, so if there are any questions, please ask!