

Java programming. Exercise session III

(based on MIT 6.092 Assignment 2)

In this exercise session, you will use data and the program created in exercise session II. The Database of employees in *FooCorporation* has to be created. The database has to contain 2 types of employees: **Employee** and **Manager**.

Exercise instructions:

1. Create a new class called **FooCorporation**.
2. Create a new class called **Employee** in the same package with **FooCorporation**.
3. Write a constructor for **Employee** class with the following parameters:
 - name;
 - professional level;
 - base pay;
 - hours worked.
4. Extend method **salary**, that takes Employee parameters and prints the total pay, with following rules:
 - For every hour over 40, they get overtime = (base pay) × 1.5.
 - The base pay must not be less than the minimum wage (\$8.00 an hour). If it is, print an error.
5. Define method **office** that defines type of working place based on professional level:
 - An employee with professional level 'A' possesses a individual office room.
 - An employee with professional level 'B' possesses a cubicle.
6. Create a class called **Manager** that inherits parameters (fields) and methods from class **Employee**. Add **hasOffice** method to **Manager** class that checks if the manager has an individual room.
7. Create an employee database (using *ArrayList*) with the following data:

	Professional level	Base Pay	Hours Worked
Employee John	B	\$8.50	35
Employee Graham	B	\$9.00	37
Employee Annabel	A	\$9.20	43
Employee Margaret	B	\$7.80	45

	Professional level	Base Pay	Hours Worked	Office number
Manager Bill	A	\$15.00	49	A332
Manager Gregory	A	\$16.50	47	A415

Core structure of **FooCorporation** class:

```
import java.util.*;

public class FooCorporation {

    public static void main(String[] args) {

        // Define parameters of employees given in the table
        // (define array list) employeeList;

        for ( ) {
            // Create an object for each employee with relevant parameters
            employeeList.add(newEmployee);
        }

        for ( ) { // Use enhance looping
            System.out.println("The employee name is " + employee.name + "\n");
            // Compute salary and define a working place for each employee
        }
    }
}
```

```
public class Employee { // Store the class in separate file
    // Create a constructor for the class with 2 methods: salary, office
}

public class Manager extends Employee {
    // Create a constructor for the class with a method hasOffice
}
```