

Computer Science Department  
CPCS202, 1st Term 2019 (Fall 2018)  
Program 1: Overtime Payment Report  
Assigned: Sunday, September 23<sup>rd</sup>, 2018

**Due: Sunday, October 7<sup>th</sup>, 2018, or LATE (25% deduction) by Monday**

**Course Learning Outcomes (CLOs 1,2,3,4,13) Student Outcomes SOs (c, c, b, a, a)**

**Purpose:**

1. The purpose of this Assignment is for you to practice on programming using the basics of Java.

**Read Carefully:**

- This program is worth **6%** of your final grade.
- **WARNING:** This is an individual assignment; you must solve it by yourself. Any form of cheating will result in receiving **-4%** (less than zero) in the program.
- The deadline for this project is by **10:59 PM on Sunday, October 7<sup>th</sup>, 2018.**
  - **Note:** once the clock becomes 10:59PM, the submission will be closed! Therefore, in reality, you must submit by 10:58 and 59 seconds.
- **LATE SUBMISSION:** you are allowed to make a late submission, but there is a penalty. If you submit **within 24 hours** of the due date (so on Monday by 10:59 PM), you will receive a 25% deduction. You will NOT be able to submit after this date/time.

• **Blackboard Submission:**

- This assignment must be submitted online via blackboard
- If your file is empty or you upload the wrong file, it will be solely your responsibility, and your grade will be **zero**.
- Your program (source file) should be named as:

SectionNameStudentIdProgramNumber.java

Example: CA1110348P1.java

## Program 1: Overtime Payment Report

### Objective

The purpose of this Assignment is to practice on programming using the basics of Java.

### Description

Suppose a company with three different departments (Human Resource “HR”, Public Administration “PA”, and Finance Department “FD”) needs to compute the total overtime payment for all three departments. Thus, a **Detailed Report** is required to show *all departments*, along with *its*:

- actual number of employees,
- number of employees working overtime,
- total number of overtime working hours per employee,
- overtime cost for each working hour,
- total overtime payment, and
- The percentage of employees who have worked overtime for each department.

The *actual number of employees* and *cost rate of each overtime working hour* for each department should be defined as **constants**, where:

*Actual number of employees for Human Resource department = 30*

*Actual number of employees for Public Administration department = 50*

*Actual number of employees for Finance Department = 10*

**Cost** of each overtime working hour for Human Resource department = 150

**Cost** of each overtime working hour for Public Administration department = 120

**Cost** of each overtime working hour for Finance Department = 170

Your program should ask the user to input the *number of employees working overtime* and the *overtime working hours* for each department. Then calculate the *total overtime payment*, along with the *percentage of employees who have worked overtime* for each department.

Your program should then print a **Detailed Report** as shown in the sample output section below. Moreover, the user should also calculate the *total overtime payment for the whole company*.

### Notes:

- For each department, it is assumed that all employees should work the same amount of overtime hours.
- The number of digits after decimal point should be two digits only.
- Your program should contain the required constant or you will lose some points.

## Sample Output

THIS PROGRAM CALCULATES THE OVERTIME PAYMENT OF A COMPANY WITH THREE DIFFERENT DEPARTMENTS.

Please enter the information for HR department:

Number of employees who have worked overtime :20

Total number of worked overtime hours per employee :10

Please enter the information for PA department:

Number of employees who have worked overtime :30

Total number of worked overtime hours per employee :15

Please enter the information for FD department:

Number of employees who have worked overtime :7

Total number of worked overtime hours per employee :3

Detailed Report of the Overtime Payment System for all three Department

Dept.	#of Emp.	Rate/hour	#of working Emp.	Total overtime hours	Total Payment	Percentage
HR	30	150	20	10	30000.00	66.67%
PA	50	120	30	15	54000.00	60.00%
FD	10	170	7	3	3570.00	70.00%

Total Overtime Payment of the company = 87570.00 Riyal.

### **Grading Details**

Your program will be graded upon the following criteria:

- 1) Adhering to the implementation specifications listed on this write-up.
- 2) Correctness.
- 3) Your program should include a header comment with the following information: your name, **email**, course number, section number, assignment title, and date.
- 4) Your program should look EXACTLY like the sample run given in this PDF.

### **BONUS Opportunity**

You can get a bonus of 5 points (out of 100) if you use formatted printing to print the report perfectly spaced as shown in the sample above. What is formatted printing? How do you print with formatted printing? Ask Google!

### **Deliverables**

You should submit: Java file containing the Java code.

**NOTE: your name, ID, section number AND EMAIL should be included as comments in the java file!**

### **Suggestions:**

- Read AND fully understand this document BEFORE starting the program!
- Once the solution is 100% clear to you, then begin making your code.

Hope this helps.

**Final suggestion: START EARLY!**