

ITE 13 – PROBLEM SET 1

You are a C developer on a certain company in charge of the payroll system. The company has made changes on their system giving additional incentives to all its employee. The amount of incentive the employees will receive depends on the following information

If the employees experience in the company is equal or more than 5 years then he/she will be given 2k on each year of service given to the company.

Example: John works in the company for 8 years now, so he will receive 16k incentives.

If the employees experience in the company is more than 10 years then he/she will be given 3k on each year of service given to the company.

Example: Sally works in the company for 13 years now, so he will receive 39k incentives.

If the employees experience in the company is more than 20 years then he/she will be given 4k on each year of service given to the company.

Example: Dawn works in the company for 25 years now, so he will receive 100k incentives.

If the employees experience in the company is less than 5 years, the incentive is now based on their overtime. The table below shows the specific condition.

Average # of Overtime for the past 3 months	Added value	Total
More than 4	2k	(Average # of Overtime for the past 3 months) * Added value
More than 3 to 4	1.5k	
More than 2 to 3	1k	
More than 0 to 2	500	

With these conditions it is important to know the number of overtimes the employee had for the past 3 months to get the average.

Example: (OT = Overtime)

*Jenna had 3 OT on month 1, 2 OT on month 2, and 3 OT on month 3, thus her average OT is 2.667. Since this average OT is between 2 to 3 then her added value is 1k. Thus, her total incentive is $2.337 * 1,000 = 2,667$.*

Now, once the total incentive is identified, tax value should be deducted. The table below shows the specific condition on how much tax should be deducted

Total Incentives	Tax deduction
Less than 20k	3%
More than or equal to 20k but less than 50k	5%
More than or equal to 50k but less than 75k	7%
More than or equal to 75k	10%

Example: Dawn receives a total of 100k incentives thus her tax deduction is 10%. Her total incentives deducted with tax is now 90k.

Your task as a developer is to create a C code implementing this company policy on incentives. The output of your C code should be the total incentive an employee should receive already deducted with tax.

To provide transparency of your code to the company, you are required to submit the following to the company's senior developer.

1. **A documentation of the variables used.** This documentation should provide the variable names used as well as a description on what they represent.
2. **A documentation of the flowchart followed.** This documentation should present the flowchart and a brief explanation on process involved in the flowchart.
3. **The C source code** with comments explaining each line of the code.

Note:

This problem set does not need a repetition control structure. Thus, your code should not contain any loops.