06.11.2015

CENG113

Programming Fundamentals

HOMEWORK #1

Write a Python code by using "**if-elif-else-for**" statements and "**functions"**. Please adapt your code to the scenario given below.

A customer wants to setup his/her own personal computer (PC) and wants to see the total price after his/her selections. The customer focuses on 4 computer hardware;

1. CPU (Central Processing Unit).
2. GPU (Graphics Processing Unit)
3. Storage Device.
4. RAM.

Your program should ask for 4 inputs for the hardware; CPU, GPU, Storage Device, RAM amount.

The customer will buy only one from each. However, the customer realizes that some discounts are applied on the GPU if you buy the same brand with the CPU. Discounts are only applied on 2 cases.

1. If AMD CPU is selected, then 10% discount on ATI GPU.
2. If Intel CPU is selected, then 5% discount on Intel GPU.

For an extra 1GB memory RAM, an extra 25$ is charged. The computer hardware market provides a FREE anti-virus software if the customer pays more than 800$'s in total. The hardware prices are listed as below.

The customer can be a buying specialist of a software company. Therefore, the customer might want to make a bulk purchase. In your program, you should ask the customer how many computers (total price) he/she wants to purchase. The bulk purchase should be done with a function. Your function **cannot use a multiplication** to calculate the bulk purchase. Use a **"for"** statement to calculate your bulk purchase.

You should define a **"function"** for each hardware purchases and discounts. In the end, the sum of you functions' return values should be total price.

Please notify the customer if he/she has a right to get anti-virus software for FREE.

In addition make sure your program keeps running until the user enters **"quit"**. To keep your program running you should use **"for"** statements. However, for statements doesn't provide your program to run to infinity. Therefore, for your range value, give the maximum value that your OS can handle. For example; if you are using a 32 bit OS and interpreter, your computer should use 2^{31} as the maximum value.

CPU (Central Processing Unit) Prices

- Intel = 320$
- AMD = 300$
- IBM = 290$

GPU (Graphics Processing Unit) Prices

- Nvidia = 150$
- ATI (AMD) = 145$ (If selected CPU is AMD 10% discount on the GPU)
- Intel = 100$ (If selected CPU is Intel 5% discount on the GPU)

Storage Device

- HDD = 200$
- SSD = 300$

RAM (Random Access Memory)

N = amount of GBs

RAM Price = N x 25$

Hardware Pricing Decision Table

Select CPU:	Intel = 320						AMD = 300						IBM =290					
Select GPU:	Intel (5% discount) = 100		Nvidia =150		ATI = 145		Intel = 100		Nvidia = 150		ATI/AMD (10% discount) =145		Intel = 100		Nvidia = 150		ATI = 145	
Storage Device:	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300	HDD = 200	SSD = 300
Amount Of RAM:	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25	RAM = Nx25

Due Date: 11.11.2015, 23:55

Submission Rules:

1. You should submit your codes through CMS.
2. Your homework should be named as **HW2_StudentID.py**. Students who do NOT follow these rules **WILL BE GRADED AS 0**.
3. Use comments in your code, otherwise you will lose some points.
4. Write your Name, Surname and Student ID as a comment in your code.