Final Exam (Spring Semester)

Computer Programming

Computer and Syst. Dept.
Time Allowed: 2 Hrs.
BME Student
Total Marks: 50
2015 – 2016

Solve the following Questions:

يُسمح باستخدام القلم الرصاص (شرط وضوح الخط).
الامتحان في ورقتين.
عدد الاسئله=8

(1) Write a program to Enter the worker type, work hours, and absence days, then calculate his net salary using the following table. (The user is not allowed to enter wrong type).
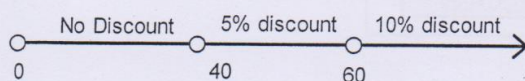
(6 marks)

Type	Hour Price	Tax	Over	Money per absence day
1	10$	2%	100 $	10$
2,3	15$	5%	150 $	10$
4	25$	7%	200 $	20$
5	30$	10%	250 $	25$

(2) Write functions to accept the student name as well as his degrees in any number of subjects, then prints the average of his degrees. Call the function twice in the first call pass the student degrees as numbers, while in the second call pass the degrees as an array.

(2 marks)

(3) A company produces three types of clothes of types 1,2 , and 3 as shown in the following table. Also a discount is applied as shown in figure below. Write a function to accept the number of required meters and the cloth type, then returns the required money.
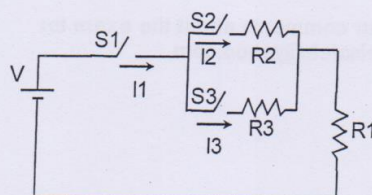
(6 marks)

Type	Meter Price	Tax
1	15 $	3%
2	25 $	7%
3	30 $	10%

(4) Write the code for the following simulator, which simulates the shown electrical circuit, you should enter the values of R1, R2, R3, V, and the state of the switches S1, S2, S3, then the simulator shows the values of the currents I1, I2, and I3.

(8 marks)

(5) Using vectors:

(a) Write a program to enter 100 elements of a vector, and then calculate the sum of all elements and the maximum element.

(b) Write a program for a simple dictionary.

(10 marks)

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(6) Calculate the final price of a TV according its <u>type</u> and <u>size</u> after applying a discount and adding a transportation cost تكاليف النقل. There are two types of TVs as shown in the following table. The program should accept the TV price before discount, TV size, and TV type. Then calculates the TV final price.
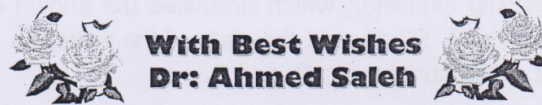
(8 marks)

Type	Size	Discount	Transportation cost
1	20>size	3%	10 $
	20≤size<30	5%	15 $
	30≤size	7%	20 $
2	20>size	10%	22 $
	20≤size<30	12%	25 $
	30≤size	15%	40 $

(7) Write the code for the following windows application that converts from CM to the other units (Meter, Inch, and Yard).

(6 marks)

----------------- End of Questions ------------------