College of Engineering & Petroleum
Computer Engineering Department
Object Oriented Paradigm Laboratory
Exam1 Fall 2017

Write a program that sorts an array of integers in ascending order or descending order or counts the frequency of every number in the array. The following are the steps required to complete the program:

a. Declare and initialize the array. Its size is 10.
b. In the main function: The array should be filled randomly from this set <41, 45, 50, 53, 60, 75> and then printed. **(4 points)**
c. In the main function: Display a menu to ask the user what is his operation. (Calculate Frequency, Sort Ascending, Calculate minimum, Exit) **(1 point)**
d. When the user chooses his operation the function(s) corresponding to the required operation is called. He is allowed to enter another choice until he enters 4. **(4 points)**
e. Write a function sortAsc() that will take the array as a parameter and return the array sorted. The sort will be done by looping through the array and finding the minimum element index and swap it with the current element until all the elements are sorted. Finding the minimum element index should be done in another function. **(5 points)**
f. Write a function to calculate frequency of every element frequency(), it will take the array as parameter and returns the array that will save the frequency of each element in the array. **(4 points)**
g. Write a function the will take an array and print it. **(2 points)**

Sample output:

```
Array
60 75 41 50 41 45 75 53 60 45
Choose you operation:
   1. Calculate frequency
   2. Sort Ascending
   3. Find minimum
   4. Exit
1
2 2 2 1 2 2 2 1 2 2
2
41 41 45 45 50 53 60 60 75 75
4
```