

Programming in C#

Practical Assignment
No. _____

In this exam, you'll have to create a Doctor Management system. The system allows input, list, search ... movies.

1. Create an interface name **IDoctor** contains these properties and methods: **(Total : 4 points)**
 - a. Properties
 - i. ID (int) – *(0.5 point)*
 - ii. Name (string) – *(0.5 point)*
 - iii. BirthDay (DateTime) – *(0.5 point)*
 - iv. Speciality (string) – *(0.5 point)*
 - v. Email(string) – *(0.5 point)*
 - vi. Rank (int – write only)
 - b. Indexer
 - i. String this[int index] – (Indexer)
 - c. Methods
 - i. void ShowInfo() – *(0.5 point)*
2. Create a class name **Doctor** **(Total : 6 points)**
 - a. Implements the **IDoctor** interface in step 1
 - b. The method ShowInfo will print all ID, Name, BirthDay, Speciality and Email of the doctor to the console *(1 point)*
 - c. Declare an array name **PhoneList** type **string** has size of **3** elements
 - d. Create an indexer uses the array **PhoneList** in step 2c.
3. Create a class name **DoctorManagement** has some properties and methods: **(Total : 3 points)**
 - a. private ArrayList doctorList;
 - b. public void Add(IDoctor doctor);
add doctor to doctorList
 - c. public void Remove(IDoctor doctor)
remove doctor from doctorList
 - d. public void Sort(IComparer comp)
sort the doctors in doctorList with Icomparer comp
4. Create a class name **SortByRank** that allows user sort doctors by their Rank. **(Total : 2 points)**

5. Display a tasks menu to choose **(Total : 2 points)**

PLEASE AN OPTION:

1. Add new Doctor
2. View list of Doctor
3. Sort Doctor by Rank
4. Delete a Doctor
5. Search Doctor By Email
6. Exit

6. If user type **1** from keyboard then: **(Total : 3 points)**

- a. Create a new Doctor instance and input Name, BirthDay, Speciality, Email, Rank and then ask user to enter 3 phones (Using indexer to add the phone into the system).

- The ID is auto increament (ID++)
- Be sure to check format of BirthDay

- b. Create a **DoctorManagement** to keep the **Doctor** instance in doctorList

7. If user type **2** from keyboard then: **(Total : 2 points)**

Loop from all doctors instances in the system then executes the **ShowInfo** method from **Doctor**.

8. If user type **3** from keyboard then: **(Total : 2 points)**

- a. Sort all doctors instances in the system by their Rank.

9. If user type **4** from keyboard then:

- a. Ask user to enter Doctor ID
- b. Delete doctor
- c. Display a message

10. If user type **5** from keyboard then:

- a. Ask user to enter Email address
- b. Display doctor

11. While user not chooses Exit (type **6** from keyboard) then go back to the menu step 3 to ask user chooses an option. **(Total : 1 points)**