
Lab Objectives: Searching and Sorting.

- a) Download the class, **Doctor**, from Moodle.
- b) Update the class to include the following:
 - a. Override the `__eq__` method which compares two objects for equality, and returns True if they are equal, False if not. Two doctors are equal if their id number is the same.
- c) Create a script which includes the following:
 - **selectionSort()**: takes a list of Doctors as a parameter, and sorts the doctors according to their specialty and name. The list should be sorted in place, no new lists should be created.
 - **searchDoctors()**: a **recursive** function that takes a list of Doctors, and the hospital to search and the ending index of the list and returns all Doctors in the list from the given hospital (and an empty list if no doctors found for the given hospital).
 - **readDoctors()**: takes an empty list and a file name as parameters, and using the file data, creates Doctor objects and adds them to the list.
 - **Your script should do the following:**
 - Read the data from the doctors.txt into a list.
 - Sort the list according to their specialty and name
 - Display the sorted list.
 - Input a hospital from the user and display the doctors at the given hospital (or appropriate message if no doctors exist)
 - Input the information about a doctor from the user, and if the doctor does not exist, add them to the list.

Sample Run 1:

```
Enter hospital to search: Medicaana
List of Doctors at Medicaana
12345 Ali Ayhan Cardiology Medicaana
47896 Ayla Guner Cardiology Medicaana
63215 Veysel Karakus Optometry Medicaana

Doctors by specialty and name:
12345 Ali Ayhan Cardiology Medicaana
47896 Ayla Guner Cardiology Medicaana
87954 Jale Tunc ENT Bayindir
56987 Melis Koc ENT TOBB ETU
36985 Irem Basar Gastroenterology Ankara Hospital
74532 Elif Som Optometry Ankara Hospital
15487 Mehmet Keskin Optometry Hacettepe Hospital
63215 Veysel Karakus Optometry Medicaana

Enter doctor id, name, specialty and hospital: 63215,Veysel Karakus,Optometry,Medicaana
Doctor exists
```

Sample Run 2:

```
Enter hospital to search: Memorial
No doctors in that hospital

Doctors by specialty and name:
12345 Ali Ayhan Cardiology Medicaana
47896 Ayla Guner Cardiology Medicaana
87954 Jale Tunc ENT Bayindir
56987 Melis Koc ENT TOBB ETU
36985 Irem Basar Gastroenterology Ankara Hospital
74532 Elif Som Optometry Ankara Hospital
15487 Mehmet Keskin Optometry Hacettepe Hospital
63215 Veysel Karakus Optometry Medicaana

Enter doctor id, name, specialty and hospital: 14524,Hale Evren,Cardiology,Memorial
New doctor added
```