



Programming in Python

Assignment 4

Doctors Interface

The program in the file **patient_data.py** contains a Dictionary named **patients** which contains information about several patients. Each patient is represented as a key-value pair, where the key is a patient ID (e.g., 'P12345'), and the corresponding value is another dictionary containing the patient's details.

Imagine you are writing a program for a doctor to query his patient's information through the command line.

The program will ask the doctor for a **patient ID**. Then given this ID, print the following information:

- Patients **name**, **age** and **gender**.
- The patient's **diagnosis**.
- **Medications** and **allergies** and the **number of Medications** and **number of allergies**.
- The patients average **blood pressure**.
 - The patients *systolic* and *diastolic* blood pressure values are contained in a list associated with the key **blood_pressure_checks**
 - In each list, the first value is the systolic pressure and the second is the diastolic pressure.
 - Calculate the average by, averaging the systolic and diastolic pressures and display them accordingly: systolic-average/diastolic-average.
 - For example, Patient P12345 has a blood pressure of 135.5/89.75.
- Whether the patients average blood pressure is **High**, **Normal** or **Low**

| High | Normal | Low |
|---------------------------------|---|----------------------------------|
| Systolic >125 Diastolic > 85 | 115 < Systolic < 125 75 < Diastolic < 85 | Systolic < 115 Diastolic < 75 |

- The time difference between the patients **last checkpoint** and **next appointment**.
 - Python provides a datatype for working with Date/Time with the following library:

```
from datetime import datetime
```
 - This library can be used to cast a String to Date in a specified format:

```
date1 = datetime.strptime(patients[id]['last_checkpoint_date'], '%Y-%m-%d')  
date2 = datetime.strptime(patients[id]['next_appointment_date'], '%Y-%m-%d')
```
 - And the time difference can be found by simply subtracting:

```
time_difference = (date2-date1).days
```
 - If the patient does not have an upcoming appointment, notify the doctor
- Ask the doctor for a medication and then **add medication** to the patient's medication list.
 - If the patient is allergic to the medication, notify the doctor and do not add the medication for the patient.
 - If the medication is already in the patients' medications, do not add anything.

- If the doctor enters 'None' then do not add anything to medications.
- Ask the doctor for a medication and then **remove medication** from the patient's medication list.

Enable the doctor to repeatedly use the program to attain different patients' data by incorporating all of the functionality in the previous bullet points in a **while loop** that iterates till the doctor enters 'Exit'.

Disclaimer: All information pertaining to medical understanding is inaccurate and is used only for hypothetical learning purposes of Python Programming.

Cooperation for this assignment is permissible but copying is not tolerated

You must understand each line of your code upon submission.

You may use chat bots or the internet to help your understanding of Python but refrain from using these tools to directly answer any part of the assignment as this will only damage your learning of the subject.

Submit your .py file through the assignment submission link on Moodle.