Dasda Assignment 2 - Task 3 - Francis Denton

Evaluation

Based on my initial perception of the data contained in the csv files, I found my approach of using classes and objects as an effective way of being able to access the specific data fields that I needed to asses and manipulate when required. Storing all of these objects in a list allowed for me to call a function once for the list and perform operations on all patient by calling one function instead of needing to call it for each patient individually. Therefore if the number of patients was increased, this approach would still be effective and efficient.

When implementing different functions into my program, I decided for some of them that the parameter would be the list. This was so I could simply refer to a specific patient by an index in the list, followed by the attribute I want to change or print out (e.g patients[6].age would return the age of the 7th patient). The selection sort algorithm I decided to use proved effective for me in my solution for sorting the 10 patients. However if there was a larger sample size of data to work with, it probably would not be an optimal or efficient algorithm to incorporate as the number of steps required to sort the patients would increase exponentially. In that scenario, it would perhaps be betting to use a sorting algorithm such as quick sort since it is more efficient for large sets of data since it works on a divide-and-conquer principle, breaking down a large list of data into smaller sections.

My program was created to handle this amount of data specifically, so you wouldn't be able to add an extra day to the csv files and have that assessed without changing the code ,however the changes required would be rather simplistic, it still means that I could have made my program more efficient and adaptable to potentially future changes, something that I would look do to if I was to undergo a similar task in the future.

Security Discussion

As a hospital, it is clearly required for them to hold personal data about their patients. The hospital needs to adhere to guidelines set out by the GDPR as well as UK law such as the Data Protection Act when handling this data. Personal data refers to any information that can be used to identify a person, this can be a name or address for example. Under the GDPR patients have many different rights regarding personal data about them held by companies.

The patient has a right to request access to any data held about them and what that data is being used for. The hospital must make sure that personal data is only shared with other medical professionals involved in the patients care. If wanting to use patient medical information in an area such as medical research, they must make sure that it is either anonymized and that there is no way it can be tracked back to the patient, or it is with consent from the patient themselves. The hospital also needs to make use of pseudonymisation, this refers to using artificial identifies such as ID's over a field like patient name etc. Making it harder for personal data to be found. Wherever possible, The hospital needs to follow the principles set out by the GDPR legislation. Data needs to be obtained lawfully, fairly and in a transparent matter where the patient is aware of what data you are taking about them. It needs to be collected for only a specific purpose such as a patients treatment and used for that purpose only. The hospital must ensure that all data they are using for the treatment of the patient is accurate and up date. It needs to be stored securely in a way that it cannot be accessed by those who may have malicious intent in mind and also should only be used be used for stated purposes which the patient needs to be informed about. Patients need to be informed immediately if there has been any breach of their personal

data or if it has been misused in any way. A data protection officer is required to be employed under the GDPR regulations. Their role involves making sure all the principles are being followed.