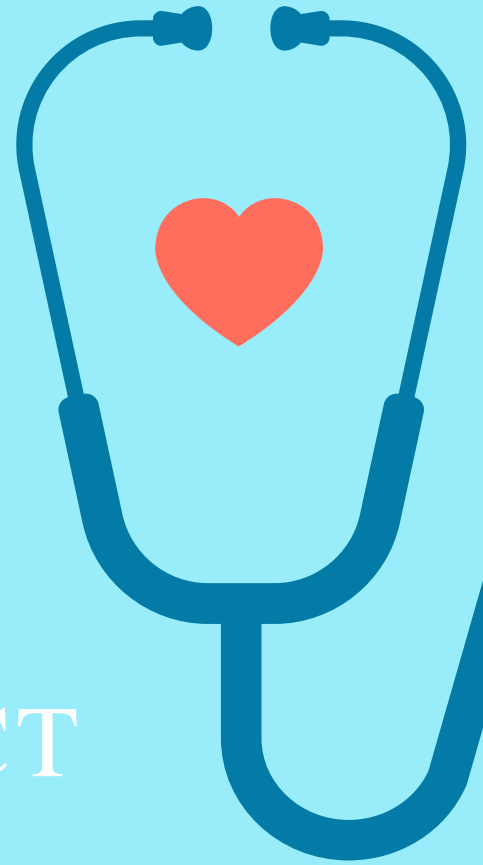


DATA STRUCTURES QUEUES PROJECT



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INTRODUCTION MENU

Users will be prompted with a menu in which they will be able to choose what they will like to be doing within the program. The program comes with pre-existing data so the user can choose any option within the menu without any errors.

```
>_ Console: connected (Running: 2 seg)
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit
Enter choice:
```

ADDING A PATIENT

Feature: Patient's Information Insertion

Users will be able to create a record for a Patient within the system. They will need to insert a unique Social Security Number and Priority Level.

```
>_ Console: connected (Running: 59 seg)
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit
Enter choice: 1
//-----//
Enter the Patient's Social Security Number: 321098
Enter the Patient's Name: David Guerra
Enter the Patient's Age: 18
Enter the Patient's Gender: Male
Enter the Patient's Medical Condition: Headache
Enter patient condition:
1. Life-threatening [0-20]
2. Critical [21-40]
3. Neutral [41-60]
4. Non-critical [61+]
Select an option: 3
All Priorities Taken: List (first-->last):
2 4 10
Choose Priority Level within the Neutral [41-60]: 41
Patient was added to the queue.
```

Feature: Different Priority Level Ranges

Users can choose between a set of ranges. Once they choose, the program will not allow them to choose any Priority Level that is outside of the given range for each section. It will show all taken Priority Levels while also re-asking users to input a Priority Level that is within Range and Free.

```
Enter patient condition:
1. Life-threatening [0-20]
2. Critical [21-40]
3. Neutral [41-60]
4. Non-critical [61+]
Select an option: 1
All Priorities Taken: List (first-->last):
2 4 10
Choose Priority Level within the Life-Threatening Range [0-20]: 23

Priority Level is not within Range or Taken: Enter any number between 0-20 that
is FREE!
All Priorities Taken: List (first-->last):
2 4 10
Choose Priority Level within the Life-Threatening Range [0-20]: █
```

Feature: Display Taken Priority Levels

Whenever the user is about to input a Priority Level of their choice, they will be prompted with the text in the image below. It shows all Taken Priority Levels so the user knows which ones to not choose.

```
All Priorities Taken: List (first-->last):
2 4 10
```

Error: Social Security Repetition

An error will be prompted to the user if they try to use a Social Security Number that is already existing within the system. It will then ask them to re-enter a Social Security Number.

```
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 1
Enter the Patient's Social Security Number: 321098
Warning: Social Security Number has already been entered
Enter the Patient's Social Security Number:
```

Error: Priority Level Repetition

An error will be prompted to the user if they try to use a Priority Level that has already been taken. It will then ask them to re-enter a Priority Level that is within Range and Available.

```
Enter patient condition:
1. Life-threatening [0-20]
2. Critical [21-40]
3. Neutral [41-60]
4. Non-critical [61+]
Select an option: 1
All Priorities Taken: List (first-->last):
2 4 10
Choose Priority Level within the Life-Threatening Range [0-20]: 4

Priority Level is not within Range or Taken: Enter any number between 0-20 that
is FREE!
All Priorities Taken: List (first-->last):
2 4 10
Choose Priority Level within the Life-Threatening Range [0-20]:
```



REMOVING A PATIENT

Feature: Removing/Caring for Patients

Once a patient has been tended to, the user will be able to remove them from the queue. The order in which patients are removed is determined by their priority number. The lower the number is, the higher the priority for the patient to be tended to.

```
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 2

Patient was tended to.

Remaining Patients (first-->last):

Patient's Priority: 4, SSN: 211544241, Name: Morty Sharpin, Age: 30,
Gender: Male, Medical Condition: Cardiac arrest

Patient's Priority: 10, SSN: 323760921, Name: Preston Vogl, Age: 24,
Gender: Male, Medical Condition: Acute abdominal pain
```

Feature: Showing All Patients

After removing a patient from the queue, the user will be able to view a list of all the remaining patients to tend to, prioritized according to their urgency of care.

Error: Queue is Empty

If there are no more patients to tend to within the Queue, then the user will be prompted with a message that informs them that the queue is currently empty.

```
>_ Console: connected (Running: 42 seg)

Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 2
The queue is empty, cannot tend to any patients.
```



DISPLAY PATIENTS

Feature: Displaying all Patients in Queue

Users will be able to display the entire list of remaining patients to tend to, which will also be prioritized according to their urgency of care.

```
>_ Console: connected (Running: 39 seg)
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 3
//-----//
Remaining Patients (first-->last):

Patient's Priority: 2, SSN: 821582186, Name: Jaquelyn Lindsell, Age: 21,
Gender: Female, Medical Condition: Severe trauma from a car accident

Patient's Priority: 4, SSN: 211544241, Name: Morty Sharpin, Age: 30,
Gender: Male, Medical Condition: Cardiac arrest

Patient's Priority: 10, SSN: 323760921, Name: Preston Vogl, Age: 24,
Gender: Male, Medical Condition: Acute abdominal pain
```

Error: Queue is Empty

If the user chooses to display the entire list of remaining patients when the queue is empty, they will be prompted with a message that informs them that there is no list of patients to display.

```
Enter choice: 3
Queue is empty, nothing to display
```



UPDATE PATIENT'S PRIORITY

Feature: Changing a Pre-existing Patient's Priority

Users will be able to change a Patient's Priority by entering their current Priority Level and then Entering a new Priority Level for them.

```
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 4
//-----//
All Priorities Taken: List (first-->last):
2 4 10
Enter Patient's Priority to be changed: 4
Enter Patient's new Priority: 1
Priority 4 successfully changed to Priority 1.

Patient's Priority: 1, SSN: 211544241, Name: Morty Sharpin, Age: 30,
Gender: Male, Medical Condition: Cardiac arrest
```

Feature: Display Taken Priority Levels

All Priority Levels that have already been taken will be displayed for the user to see which one they will change and which one they can't choose for the newer Priority Level.

```
All Priorities Taken: List (first-->last):
1 2 10
```

Error: Priority Inputted Doesn't Exit

If the user inputs a priority number that doesn't exist within the current queue, they will be prompted with a message that states that a patient hasn't been assigned that priority. The program will also allow the user to try again to input an existing priority.

```
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 4
//-----//
All Priorities Taken: List (first-->last):
2 4 10
Enter Patient's Priority to be changed: 5
There is no patient assigned with this priority

Enter the Patient's Priority to be changed: █
```


Error: Priority Level is Taken

If a Priority Level that the user is trying to insert for the newer Priority Level is already taken then the program will prompt them saying so. It will then ask for the user to re-enter a new Priority Level.

```
All Priorities Taken: List (first-->last):  
1 2 10  
Enter Patient's Priority to be changed: 1  
Enter Patient's new Priority: 2  
Enter FREE Priority Level!  
Enter Patient's new Priority: █
```

Error: Queue is Empty

If the queue is empty when the user is trying to Update a Patient's Priority then it will tell them as shown in the image below.

```
Menu:  
1. Add a Patient  
2. Remove a Patient  
3. Display Patients  
4. Update Patient's Priority  
5. Search for a Patient  
6. Quit  
  
Enter choice: 4  
The queue is empty.Menu:
```



SEARCH FOR A PATIENT

Feature: Search Via Social Security Number

Users will be prompted with a menu in which they can insert “1” in order to search for a patient by using their Social Security Number.

```
Search for a Patient
1. Via Social Security Number
2. Via Name
Enter Option: 1
Enter the Patient's SSN:
```

Feature: Display Patient with Matching Social Security Number

If the Social Security Number is found within the system then the Patient, with the matching SSN, will have all their information displayed.

```
Enter the Patient's SSN: 211544241

Patient's Priority: 4, SSN: 211544241, Name: Morty Sharpin, Age: 30, Gender: Male,
Medical Condition: Cardiac arrest
```

Feature: Search Via Name

Users will be prompted with a menu in which they can insert “2” in order to search for a patient by using their Name.

```
Search for a Patient
1. Via Social Security Number
2. Via Name
Enter Option: 2
Enter the Patient's Name: 
```

Feature: Display Patient with Matching Name

If the Name is found within the system then the Patient, with the matching Name, will have all their information displayed.

```
Enter the Patient's Name: Preston Vogl

Patient's Priority: 10, SSN: 323760921, Name: Preston Vogl, Age: 24, Gender: Male,
Medical Condition: Acute abdominal pain
```

Error: No Match Found for Social Security Number

If there is no matching Social Security Number found within the system then the program will prompt the user with the following image below.

```
Enter the Patient's SSN: 213213
A patient with the Social Security number of 213213 was not found.
```

Error: No Match Found for Patient's Name

If there is no matching Name found within the system then the program will prompt the user with the following image below.

```
Enter the Patient's Name: Preston
A patient with the name of Preston was not found.
```

Error: Queue is Empty

If the user tries to search when the system's queue is empty then it prompts them telling them that the queue is empty therefore it cannot search.

```
Menu:
1. Add a Patient
2. Remove a Patient
3. Display Patients
4. Update Patient's Priority
5. Search for a Patient
6. Quit

Enter choice: 5

Queue is empty, cannot search.
```