Priority Queue for treating patients in a hospital with priorities as

a)Serious (top priority)
b)Medium illness (medium priority)
c)General (least priority)

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Github link :

https://github.com/diksha-sharma22/Diksha_Sharma.github.io/blob/95165f58e4b1bdbcace0292c4daed372f4d49666/AICVS_Project.cpp

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Introduction

This system is basically concerned with the prioratisation of patients on the basis of the seriousness of their disease .

In the project following entities are included:

Add a patient to queue

Treat a patient

Display first patient to be treated

Display the list of all the patients

MOTIVATION AND OBJECTIVE OF THE PROJECT

- All the manual work should be converted into computerized so that the load of employees should decrease.
- The data should be stored in computer rather than in register manually.
- All the process should be done by computer so it consumes less time .

Data Structure

Singly Linked List

- Linked List is a sequential collection of nodes. Which is faster than array in terms of deletion of nodes. It's memory is dynamically allocated in runtime. This saves time and space.
- Each node consists of different data field as:

#Name

#Id

#Link to the next node

Data Structure

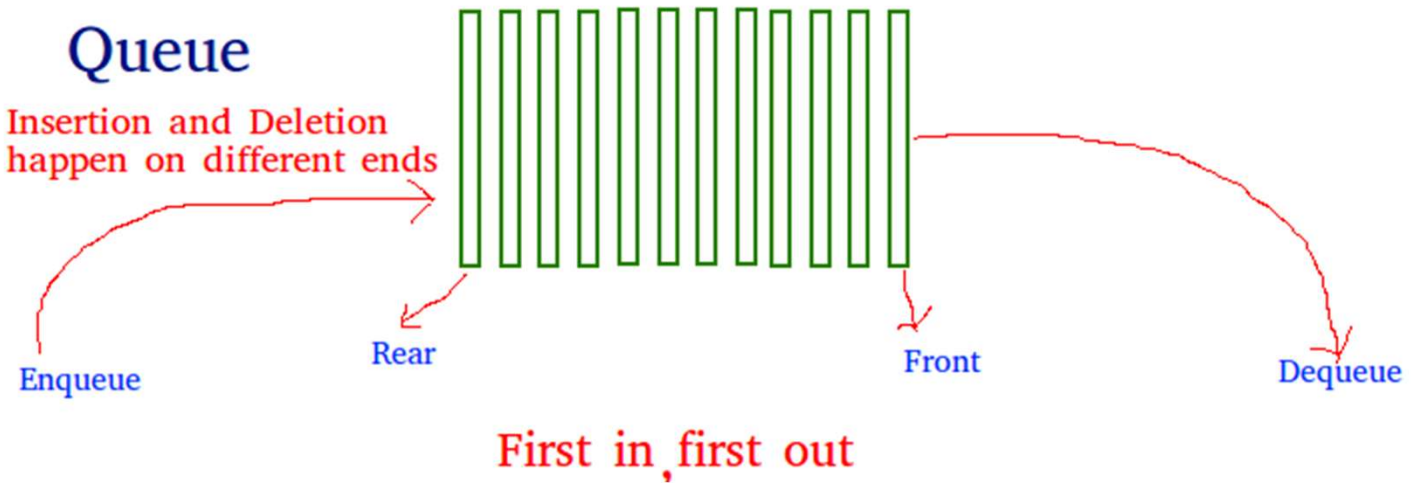
Queue

- Queue is a data structure in which insertion and deletion takes place from the ends. It follows First In First Out Principle.
- Queue data structure is used here . If the patient with highest priority comes so that will be added to 1st queue , patient with medium priority comes so that will be added to 2nd queue , patient with least priority comes so that will be added to 3rd queue

Data Structure

LINEAR QUEUE

A Queue is a linear structure which follows a particular order in which the operations are performed. The order is First In First Out (FIFO) .In a queue, we remove the item the least recently added.



SYSTEM REQUIREMENTS

SOFTWARE SPECIFICATION

- Operating System : OSx
- Frontend : C programming
- Backend : C programming
- IDE : Dev c++

Implementation modules

- int menu();
- int enqueue() ;
- int dequeue();
- int displayFirst() ;
- int displayAll();

Conclusion

The patients are being prioratise on the basis of the seriousness of their disease and the queue is being formed which will help to treat the patients according to the priorities. It will save the timing and it may help to save someone's life in case of emergency .

Results

```
        Menu operations are as follows :
        1.Add a patient
        2.Treat a patient
        3.Display first patient to be treated
        4.Display all Patients
        0.Exit

Enter your choice       1

 Enter Patient name to add
Diksha

Patient priorities are as follows:
1. Serious illness
2. Medium illness
3. General illness
 Enter patient's priority
3

 Patient added successfully

        Menu operations are as follows :
        1.Add a patient
        2.Treat a patient
        3.Display first patient to be treated
        4.Display all Patients
        0.Exit

Enter your choice       1

 Enter Patient name to add
Yamika

Patient priorities are as follows:
1. Serious illness
2. Medium illness
3. General illness
 Enter patient's priority
2
```

Results

```
 Patient added successfully

        Menu operations are as follows :
        1.Add a patient
        2.Treat a patient
        3.Display first patient to be treated
        4.Display all Patients
        0.Exit

Enter your choice       1

 Enter Patient name to add
Ishika

Patient priorities are as follows:
1. Serious illness
2. Medium illness
3. General illness
 Enter patient's priority
1

 Patient added successfully

        Menu operations are as follows :
        1.Add a patient
        2.Treat a patient
        3.Display first patient to be treated
        4.Display all Patients
        0.Exit

Enter your choice       3

The first patient to treat is Ishika

        Menu operations are as follows :
        1.Add a patient
        2.Treat a patient
        3.Display first patient to be treated
        4.Display all Patients
        0.Exit
```

Results

```
        0.Exit

Enter your choice       4

The Patients in queue are as follows:

3       Ishika
2       Yamika
1       Diksha
         Menu operations are as follows :
         1.Add a patient
         2.Treat a patient
         3.Display first patient to be treated
         4.Display all Patients
         0.Exit

Enter your choice       2

 The patient treated is Ishika
         Menu operations are as follows :
         1.Add a patient
         2.Treat a patient
         3.Display first patient to be treated
         4.Display all Patients
         0.Exit

Enter your choice       2

 The patient treated is Yamika
         Menu operations are as follows :
         1.Add a patient
         2.Treat a patient
         3.Display first patient to be treated
         4.Display all Patients
         0.Exit

Enter your choice       0

 exiting..

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```

References

- www.youtube.com
- www.tutorialspoint.com
- www.greeksforgreek.org