

INPUT

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#include<iostream>

#include<string>

#define N 20

#define SERIOUS 10
#define NONSERIOUS 5
#define CHECKUP 1

using namespace std;

string Q[N];
int Pr[N];
int r = -1,f = -1;

void enqueue(string data,int p)//Enqueue function to insert data and its priority in queue
{
    int i;
    if((f==0)&&(r==N-1)) //Check if Queue is full
        cout<<"Queue is full";
    else {
        if(f== -1) { //if Queue is empty
            f = r = 0;
            Q[r] = data;
            Pr[r] = p;
        }
        else if(r == N-1) { //if there there is some elemets in Queue
            for(i=f;i<=r;i++) {
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Q[i-f] = Q[i];
Pr[i-f] = Pr[i];
r = r-f;
f = 0;
for(i = r; i > f; i--) {
    if(p > Pr[i]) {
        Q[i+1] = Q[i];
        Pr[i+1] = Pr[i];
    }
    else break;

    Q[i+1] = data;
    Pr[i+1] = p;
    r++;
}
}
else {
    for(i = r; i >= f; i--) {
        if(p > Pr[i]) {
            Q[i+1] = Q[i];
            Pr[i+1] = Pr[i];
        }
        else break;
    }
    Q[i+1] = data;
    Pr[i+1] = p;
    r++;
}
}

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}

void print() { //print the data of Queue

    int i;
    for(i=f;i<=r;i++) {
        cout << "Patient's Name - "<<Q[i];
        switch(Pr[i]) {
            case 1:
                cout << " Priority - 'Checkup' " << endl;
                break;
            case 5:
                cout << " Priority - 'Non-serious' " << endl;
                break;
            case 10:
                cout << " Priority - 'Serious' " << endl;
                break;
            default:
                cout << "Priority not found" << endl;
        }
    }
}

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void dequeue() { //remove the data from front
    if(f == -1) {
        cout<<"Queue is Empty";
    }
    else {
        cout<<"deleted Element ="<<Q[f]<<endl;
        cout<<"Its Priority = "<<Pr[f]<<endl;
        if(f==r) f = r = -1;
        else f++;
    }
}

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}
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int main() {  
    string data;  
    int opt,n,i,p;  
    cout<<"Enter Your Choice:-"<<endl;  
    do {  
        cout << "1 for Insert the Data in Queue" << endl << "2 for show the Data in Queue " << endl  
        << "3 for Delete the data from the Queue"  
        << endl << "0 for Exit"<< endl;  
        cin >> opt;  
        switch(opt) {  
            case 1:  
                cout << "Enter the number of patinent" << endl;  
                cin >> n;  
                i = 0;  
                while(i < n) {  
                    cout << "Enter your name of the patient : ";  
                    cin >> data;  
                    ifnotdoagain:  
                        cout << "Enter your Prioritys (0: serious, 1: non-  
serious, 2: genral checkup) : ";  
                        cin >> p;  
                        switch(p) {  
                            case 0:  
                                enqueue(data,SERIOUS);  
                                break;  
                            case 1:  
                                enqueue(data,NONSERIOUS);  
                                break;  
                            case 2:  
                                enqueue(data,CHECKUP);
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                                break;
                                default:
                                    goto ifnotdoagain;
                                }

                                i++;
                            }
                    break;
                case 2:
                    print();
                    break;
                case 3:
                    dequeue();
                    break;
                case 0:
                    cout << "Bye Bye !" << endl;
                    break;
                default:
                    cout<<"Incorrect Choice"<<endl;

            }
        }while(opt!=0);
    return 0;
}

```

[illegible]