#include<iostream>

#include<string>

#define N 20

#define SERIOUS 10

#define NONSERIOUS 5

#define CHECKUP 1

using namespace std;

string Q[N]; //Size of Queue

int Pr[N]; //FOR CATAGORY OF Patient

int r = -1,f = -1;

void enqueue(string name,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] = name; //FIRST ENTRY

Pr[r] = p; //FIRST ENTRY

}

else { //second patient onwards

for(i = r;i>=f;i--) {

if(p>Pr[i]) //if priority of the new patient is > exixting patient then shift the existing patient one place right

{

Q[i+1] = Q[i];

Pr[i+1] = Pr[i];

}

else break;

}

Q[i+1] = name;

Pr[i+1] = p;

r++;

}

}

}

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;

}

}

}

void dequeue() { //remove the data from front

if(f == -1) {

cout<<"Queue is Empty";

}

else {

cout<<"deleted Element ="<<Q[f]<<endl;

if(f==r) f = r = -1;

else f++;

}

}

int main()

{

string name;

int opt,n,i,p;

cout<<"Enter Your Choice:-"<<endl;

while(1)

{

cout << "\nMenu \n 1)Insert Data in Queue" << endl << " 2)show the Data in Queue " << endl <<" 3)Delete data from the Queue"

<< endl <<" 4)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 >> name;

cout << "Enter your Prioritys (0: Serious, 1: Non-serious, 2: General checkup) : ";

cin >> p;

switch(p) {

case 0:

enqueue(name,SERIOUS);

break;

case 1:

enqueue(name,NONSERIOUS);

break;

case 2:

enqueue(name,CHECKUP);

break;

}

i++;

}

break;

case 2:

print();

break;

case 3:

dequeue();

break;

case 4:

exit(0);

default:

cout<<"Incorrect Choice"<<endl;

}

}

return 0;

}