INPUT

```
#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++;
}
```

}

```
}
void print() { //print the data of Queue
         int i;
         for(i=f;i<=r;i++) {
                  cout << "Patient's Name - "<<Q[i];</pre>
                  switch(Pr[i]) {
                           case 1:
                                    cout << " Priority - 'Checkup' " << endl;</pre>
                           break;
                           case 5:
                                    cout << " Priority - 'Non-serious' " << endl;</pre>
                           break;
                           case 10:
                                    cout << " Priority - 'Serious' " << endl;</pre>
                           break;
                           default:
                                    cout << "Priority not found" << endl;</pre>
                  }
        }
}
void dequeue() { //remove the data from front
         if(f == -1) {
                  cout<<"Queue is Empty";</pre>
         }
         else {
         cout<<"deleted Element ="<<Q[f]<<endl;</pre>
         cout<<"Its Priority = "<<Pr[f]<<endl;</pre>
                  if(f==r) f = r = -1;
                  else f++;
         }
```

```
}
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;</pre>
                                 cin >> n;
                                 i = 0;
                                 while(i < n) {
                                         cout << "Enter your name of the patient : ";</pre>
                                         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);
```

```
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;</pre>
               }
        }while(opt!=0);
    return 0;
}
```

break;

OUTPUT

```
>>>>>>>>>
1.Insert and overwrite
2.Show
3.Search & Edit(number)
4.Search & Edit(name)
5.Search & Edit(onlynumber)
6.Search & edit(only name)
7.Delete a Student Record
8.Exit
       Enter the Choice
                             :1
      Enter Roll Number: 1
       Enter the Name : std1
       Enter the Division: A
       Enter the Address: Pune
Do you want to enter more records?
1.Yes
2.No 1
       Enter Roll Number: 2
       Enter the Name : std2
       Enter the Division: A
       Enter the Address: Nashik
Do you want to enter more records?
1.Yes
2.No 1
1.Yes
2.No 1
       Enter Roll Number: 3
       Enter the Name : std3
       Enter the Division: A
       Enter the Address: Delhi
Do you want to enter more records?
1.Yes
2.No 2
>>>>>>>>>
1.Insert and overwrite
2.Show
3.Search & Edit(number)
4.Search & Edit(name)
5.Search & Edit(onlynumber)
6.Search & edit(only name)
7.Delete a Student Record
8.Exit
       Enter the Choice
                             :2
       1
                     std1
                                    A
                                                  Pune
       2
                                                  Nashik
                     std2
                                    Α
                     std3
                                                  Delhi
>>>>>>>>>>
```