

```
1 #include <iostream>
2 #include <fstream>
3 #include <string>
4 #include <cstring>
5 using namespace std;
6 template <class t1>
7 struct node
8 {
9     t1 info;
10    node* next;
11 };
12
13 template <class t1>
14 class queues
15 {
16     node<t1>* front;
17     node<t1>* rear;
18 public:
19     queues();
20     void enqueue(t1);
21     t1 delqueue();
22     bool isfull();
23     bool isempty();
24     void print();
25 };
26
27 template<class t1>
28 queues<t1>::queues()
29 {
30     front = NULL;
31     rear = NULL;
32 }
33
34 template<class t1>
35 void queues<t1>::enqueue(t1 a)
36 {
37     node<t1>* temp;
38     temp = new node<t1>;
39     temp->info = a;
40     temp->next = NULL;
41     if (rear == NULL)
42         front = temp;
43     else
44     {
45         rear->next = temp;
46         rear = temp;
47     }
48 }
49
```

```
50 template<class t1>
51 t1 queues<t1>::delqueue()
52 {
53     t1 value;
54     node<t1>* temp;
55     temp = front;
56     value = front->info;
57     front = front->next;
58     temp->next = NULL;
59     delete temp;
60     return value;
61 }
62
63 template<class t1>
64 bool queues<t1>::isfull()
65 {
66     node<t1>* ptr;
67     ptr = new node<t1>;
68     if (ptr == NULL)
69     {
70         return true;
71     }
72     else
73     {
74         delete ptr;
75         return false;
76     }
77 }
78
79 template<class t1>
80 bool queues<t1>::isempty()
81 {
82     if (front == NULL)
83         return true;
84     else
85         return false;
86 }
87
88 template<class t1>
89 void queues<t1>::print()
90 {
91     node<t1>* temp;
92     temp = front;
93     while (temp != NULL)
94     {
95         cout << temp->info;
96         temp = temp->next;
97     }
98 }
```