

```

1  #include "cnPtrQueue.h"
2  #include <cassert>
3  using namespace std;
4
5  namespace CS3358_FA2021_A5P2
6  {
7      cnPtrQueue::cnPtrQueue()
8      {
9          numItems = 0;
10     }
11
12     bool cnPtrQueue::empty() const
13     {
14         return outStack.empty() && inStack.empty();
15     }
16
17     cnPtrQueue::size_type cnPtrQueue::size()const
18     {
19         return numItems;
20     }
21
22     CNode* cnPtrQueue::front()
23     {
24         assert(!inStack.empty() || !outStack.empty());
25         if (outStack.empty()){
26             while(!inStack.empty()){
27                 outStack.push(inStack.top());
28                 inStack.pop();
29             }
30         }
31         return outStack.top();
32     }
33
34     void cnPtrQueue::push(CNode* cnptr)
35     {
36         inStack.push(cnptr);
37         numItems++;
38     }
39
40     void cnPtrQueue::pop()
41     {
42         assert(!inStack.empty() || !outStack.empty());
43         if (outStack.empty()){
44             while(!inStack.empty()){
45                 outStack.push(inStack.top());
46                 inStack.pop();
47             }
48         }
49         outStack.pop();
50         numItems--;
51     }
52 }

```