```cpp
#include "cnPtrQueue.h"
#include <cassert>
using namespace std;

namespace CS3358_FA2021_A5P2
{
    cnPtrQueue::cnPtrQueue()
    {
        numItems = 0;
    }

    bool cnPtrQueue::empty() const
    {
        return outStack.empty() && inStack.empty();
    }

    cnPtrQueue::size_type cnPtrQueue::size()const
    {
        return numItems;
    }

    CNode* cnPtrQueue::front()
    {
        assert(!inStack.empty() || !outStack.empty());
        if (outStack.empty()){
             while(!inStack.empty()){
                 outStack.push(inStack.top());
                 inStack.pop();
             }
        }
        return outStack.top();
    }

    void cnPtrQueue::push(CNode* cnptr)
    {
        inStack.push(cnptr);
        numItems++;
    }

    void cnPtrQueue::pop()
    {
        assert(!inStack.empty() || !outStack.empty());
        if (outStack.empty()){
             while(!inStack.empty()){
                 outStack.push(inStack.top());
                 inStack.pop();
             }
        }
        outStack.pop();
        numItems--;
    }
}
```