```
 1: /*Copyright 2017 Sam Pickell*/
 2: #include "RingBuffer.hpp"
 3:
 4: RingBuffer::RingBuffer() {
 5:   my_size = 0;
 6:   capacity = 1;
 7: }
 8:
 9: RingBuffer::RingBuffer(int u_capacity) {
10:   my_size = 0;
11:
12:   if (u_capacity < 1) {
13:        throw std::invalid_argument(
14:             "RB constructor: capacity must be greater than zero.");
15:     } else {
16:        capacity = u_capacity;
17:     }
18: }
19:
20: RingBuffer::~RingBuffer() {}
21:
22: bool RingBuffer::isEmpty() {
23: return (my_size == 0);
24: }
25:
26: bool RingBuffer::isFull() {
27: return (my_size == capacity);
28: }
29:
30: void RingBuffer::enqueue(int16_t x) {
31:   if (this->isFull()) {
32:        throw std::runtime_error("enqueue: can't enqueue to a full ring.");
33:     } else {
34:       data.push_back(x);
35:       my_size++;
36:     }
37: }
38:
39: int16_t RingBuffer::dequeue() {
40:   int16_t temp;
41:   if (this->isEmpty()) {
42:        throw std::runtime_error("dequeue: nothing to dequeue, empty.");
43:     } else {
44:       temp = data.front();
45:       data.erase(data.begin());
46:       my_size--;
47:     }
48:   return temp;
49: }
50:
51: int16_t RingBuffer::peek() {
52:   if (this->isEmpty()) {
53:        throw std::runtime_error("peek: nothing to see, empty.");
54:     }
55:   return data.front();
56: }
```