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1  /*
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3
4      CS A250
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6
7      Lab 4
8  */
9
10 #include "DoublyList.h"
11
12 // Definition function print
13 void DoublyList::print() const
14 {
15     Node * current = first;
16     while (current != nullptr)
17     {
18         cout << current->getData() << " ";
19         current = current->getNext();
20     }
21 }
22
23 // Definition function reversePrint
24 void DoublyList::reversePrint() const
25 {
26     Node * current = last;
27     while (current != nullptr)
28     {
29         cout << current->getData() << " ";
30         current = current->getPrev();
31     }
32 }
33
34 // Definition function front
35 int DoublyList::front() const
36 {
37     return first->getData();
38 }
39
40 // Definition function back
41 int DoublyList::back() const
42 {
43     return last->getData();
44 }
45
46 // Definition function copyToList
47 void DoublyList::copyToList(DoublyList & list) const
48 {
49     Node * current = last;
```

```
50     while (current != nullptr) {
51         list.insertFront(current->getData());
52         current = current->getPrev();
53     }
54     list.count += count;
55 }
56
57 // Definition function insertInOrder
58 void DoublyList::insertInOrder(int newData)
59 {
60     if (count == 0)
61     {
62         first = new Node(newData, nullptr, nullptr);
63         last = first;
64     }
65     else if (newData < first->getData())
66     {
67         first = new Node(newData, nullptr, first);
68         first->getNext()->setPrev(first);
69     }
70     else if (newData > last->getData())
71     {
72         last = new Node(newData, last, nullptr);
73         last->getPrev()->setNext(last);
74     }
75     else
76     {
77         Node * current = first->getNext();
78         Node * trail = first;
79         while (current->getNext() != nullptr)
80         {
81             if (newData > trail->getData() && newData < current->getData())
82             {
83                 trail->setNext(new Node(newData, trail, current));
84                 current->setPrev(trail->getNext());
85             }
86             current = current->getNext();
87             trail = trail->getNext();
88         }
89     }
90     count++;
91 }
92
```