

## ListIterator.java

```
1 /** This class represents an iterator on a ConList as required by the interface
2  * Iterable<E> of the List interface.
3  *
4  * @see List
5  * @see Keyed
6  *
7  * @author D. Hughes
8  *
9  * @version 1.0 (Mar. 2011)
10 *
11 * new concepts: implementing Iterator. */
12
13 /*Name: Long Nguyen: Student # 5427059
14 * I modify this file from the conListIterator to make it works with the array part
   of the Iterator
15 * I added comments where I made changes
16 * */
17
18 package MULTISSET;
19
20 import java.util.*;
21
22 class ListIterator < E extends Keyed > implements Iterator<E> {
23
24
25     private int    cursor; // the cursor that iterates through the list
26     private MyBag<E> list;  // the list being iterated over
27
28
29     /** This constructor constructs an iterator on the specified ConList.
30     *
31     * @param l the list to be iterated over. */
32
33     ListIterator ( MyBag<E> l ) {
```

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```
34
35     list = l;
36     cursor = 0;
37
38 }; // constructor
39
40
41 /** This method returns true if there are more items in the list.
42  *
43  * @return boolean more items on the list. */
44
45 public boolean hasNext () { // from Iterator
46
47     return cursor < list.getLength();
48
49 }; // hasNext
50
51
52 /** This method returns the next item in the list.
53  *
54  * @return E the next item on the list. */
55
56 public E next () { // from Iterator
57
58     E i;
59
60     if ( cursor >= list.getLength() ) {
61         throw new NoSuchElementException();
62     }
63     else {
64         i = list.getItems()[cursor];
65         cursor = cursor + 1;
66         return i;
67     }
```

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```
68
69 }; // next
70
71
72 /** Removal is not supported so this method throws an
73  * UnsupportedOperationException.
74  *
75  * @exception UnsupportedOperationException remove is not supported.
76  */
77 public void remove () { // from Iterator
78
79     throw new UnsupportedOperationException();
80
81 }; // remove
82
83
84 } // LnkListIterator
```