

```
1
2 package adt;
3
4 import java.util.Iterator;
5
6 /**
7  *
8  * @author Chew Lip Sin
9  * @author Eugene Teoh
10  * @param <T> The type of elements stored in the linked list.
11  */
12 public interface LinkedListInterface<T> {
13
14     /**
15      * Task: clear all
16      */
17     void clear();
18
19     /**
20      * Task: Add a new entry to last of the list
21      *
22      * @param newElement
23      * @return True if the element is added successfully.
24      */
25     boolean add(T newElement);
26
27     /**
28      * Task: Add a new entry to any place of the list
29      *
30      * @param index
31      * @param newElement
32      * @return True if the element is added successfully.
33      */
34     boolean add(int index, T newElement);
35
36     /**
37      * Task: Add all the new entries to the list
38      *
39      * @param newElements
40      * @return True if all elements are added successfully.
41      */
42     boolean addAll(T... newElements);
43
44     /**
45      * Task: Get the record contains the specified character or string
46      *
```

```
47      * @param element
48      * @return records
49      */
50      boolean contains(T element);
51
52      /**
53       * Task: Get the specified record in the list
54       *
55       * @param index
56       * @return the specified record
57       */
58      T get(int index);
59
60      /**
61       * Task: Get the record's index in the list
62       *
63       * @param element
64       * @return number
65       */
66      int indexOf(T element);
67
68      /**
69       * Task: Check the list whether is empty
70       *
71       * @return true or false
72       */
73      boolean isEmpty();
74
75      /**
76       * Task: Remove the specified record from the list
77       *
78       * @param element
79       * @return True if the element is removed successfully.
80       */
81      boolean remove(T element);
82
83      /**
84       * Task: Remove the record from the list by index
85       *
86       * @param index
87       * @return True if the element is removed successfully.
88       */
89      boolean remove(int index);
90
91      /**
92       * Task: Remove all elements related to the record from the list
```

```
93      *
94      * @param elements
95      * @return
96      */
97      boolean removeAll(T... elements);
98
99      /**
100     * Task: Set new record with index to the list
101     *
102     * @param index
103     * @param newElement
104     * @return
105     */
106     boolean set(int index, T newElement);
107
108     /**
109     * Task: Get number of records in the list
110     *
111     * @return
112     */
113     int sizeOf();
114
115     /**
116     *
117     *
118     * @param list
119     * @return
120     */
121     LinkedListInterface where(WhereClause<T> list);
122
123     /**
124     * Task: sort list order by
125     *
126     * @param list
127     */
128     void orderBy(OrderByClause<T> list);
129
130     /**
131     * Task: Get first or default
132     *
133     * @param list
134     * @return
135     */
136     T firstOrDefault(FirstOrDefaultClause<T> list);
137
138     /**
```

```
139      * Task: Get Iterator
140      *
141      * @return
142      */
143      Iterator<T> getIterator();
144 }
```