

C:\> Users\YangYiShu\Desktop> lab 5 > J dc126280_yangyishu_lab 5.java > CircularlyLinkedList<E> > display()

```
1  import java.lang.*;
2  class CircularlyLinkedList<E> {
3      //... (nested node class identical to that of the SinglyLinkedList class)
4      //...
5      // instance variables of the CircularlyLinkedList
6      private Node<E> tail = null; //we store tail (but not head)
7      private int size = 0;
8      public CircularlyLinkedList( ) { } //construct an initially empty list
9      public int size( ) { return size; }
10     public boolean isEmpty( ) { return size == 0; }
11
12     public void rotate( ) { //rotate the first element to the back of the list
13         if (tail != null) //if empty, do nothing
14             tail = tail.getNext( ); //the old head becomes the new tail
15     }
16
17     public void addFirst(E e) { //add element e to the front of the list
18         if (size == 0) {
19             tail = new Node<>(e, null);
20             tail.setNext(tail); //link to itself circularly
21         }
22         else {
23             Node<E> newest = new Node<>(e, tail.getNext( ));
24             tail.setNext(newest);
25         }
26         size++;
27     }
28     public void addLast(E e) { //add element e to the end of the list
29         addFirst(e); //insert new element at front of list
30         tail = tail.getNext( ); //now new element becomes the tail
31     }
32     Run | Debug
33     public static void main(String[] args) {
34         CircularlyLinkedList<Integer> list= new CircularlyLinkedList<Integer>();
35         list.addLast(e: 0);
36         list.addLast(e: 1);
37         list.addLast(e: 2);
38         System.out.println(x: "Original List");
39         list.display();
40         CircularlyLinkedList<Integer> list2= new CircularlyLinkedList<Integer>();
41         list2.addFirst(e: 0);
42         list2.addFirst(e: 1);
43         list2.addFirst(e: 2);
44         System.out.println(x: "Reverse List");
45         list2.display();
46     }
47     public void display(){
48         Node<E> n = tail;
49         while(n != null){
50             System.out.print(n.element+"\n");
51             n = n.next;
52             if(tail == n.next){
53                 break;
54             }
55         }
56     }
57     private static class Node<E>{
58         private E element;
59         private Node<E> next;
60         public Node(E e, Node<E> n){
61             element = e;
62             next = n;
63         }
64         public E getElement( ) { return element; }
65         public Node<E> getNext( ) { return next; }
66         public void setNext(Node<E> n) { next = n; }
67     }
```

Windows PowerShell

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安装最新的 PowerShell，了解新功能和改进！<https://aka.ms/PSWindows>

```
PS C:\Users\YangYiShu> & 'C:\Program Files\Java\jdk-17.0.4.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\YangYiShu\AppData\Local\Temp\vscode_ws_3f739\jdt_ws\jdt.ls-java-project\bin' 'CircularlyLinkedList'
```

Original List

2

0

Reverse List

0

2

PS C:\Users\YangYiShu>