

```

1 /*
2  * Written by JJ Shepherd
3  */
4 public class GenLL <T>
5 {
6     private class ListNode
7     {
8         T data;
9         ListNode link;
10        public ListNode(T aData, ListNode aLink)
11        {
12            data = aData;
13            link = aLink;
14        }
15    }
16    private ListNode head;
17    private ListNode current;
18    private ListNode previous;
19    private int size;
20    public GenLL()
21    {
22        head = current = previous = null;
23        this.size = 0;
24    }
25    public void add(T aData)
26    {
27        ListNode newNode = new ListNode(aData,null);
28        if(head == null)
29        {
30            head = current = newNode;
31            this.size = 1;
32            return;
33        }
34        ListNode temp = head;
35        while(temp.link != null)
36            temp = temp.link;
37        temp.link = newNode;
38        this.size++;
39    }
40    public void print()
41    {
42        ListNode temp = head;
43        while(temp != null)
44        {
45            System.out.println(temp.data);
46            temp = temp.link;
47        }
48    }
49    public void addAfterCurrent(T aData)
50    {
51        if(current == null)
52            return;
53        ListNode newNode = new ListNode(aData,current.link);
54        current.link = newNode;
55        this.size++;
56    }
57    public T getCurrent()

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```

58     {
59         if(current == null)
60             return null;
61         return current.data;
62     }
63     public void setCurrent(T aData)
64     {
65         if(aData == null || current == null)
66             return;
67         current.data = aData;
68     }
69     public void gotoNext()
70     {
71         if(current == null)
72             return;
73         previous = current;
74         current = current.link;
75     }
76     public void reset()
77     {
78         current = head;
79         previous = null;
80     }
81     public boolean hasMore()
82     {
83         return current != null;
84     }
85     public void removeCurrent()
86     {
87         if(current == head)
88         {
89             head = head.link;
90             current = head;
91         }
92         else
93         {
94             previous.link = current.link;
95             current = current.link;
96         }
97         if(this.size > 0)
98             size--;
99     }
100    public int getSize()
101    {
102        return this.size;
103    }
104    public T getAt(int index)
105    {
106        if(index < 0 || index >= size)
107            return null;
108        ListNode temp = head;
109        for(int i=0;i<index;i++)
110            temp = temp.link;
111        return temp.data;
112    }
113    public void setAt(int index,T aData)
114    {

```

GenLL.java

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115         if(index < 0 || index >= size || aData == null)
116             return;
117         ListNode temp = head;
118         for(int i=0;i<index;i++)
119             temp = temp.link;
120         temp.data = aData;
121     }
122 }
123
```