

ListUtils.java

```
1 /* Name: Ismet Khan
2 * COSC 311 FA19
3 * hw0912 (ListUtils.java)
4 * URL: https://github.com/ikhan300/Assignment1\_0912
5 */
6
7 import java.util.*;
8 import java.lang.*;
9
10 public class ListUtils
11 {
12     public static void printList(Node head)
13     {
14         Node ptr = head;
15         while (ptr != null)
16         {
17             System.out.print(ptr.data + " -> ");
18             ptr = ptr.next;
19         }
20
21         System.out.println("null");
22     }
23
24     public static Node SortedInsert(Node head, Node newNode)
25     {
26         Node dummy = new Node();
27         Node current = dummy;
28         dummy.next = head;
29
30         while (current.next != null && current.next.data < newNode.data)
31         {
32             current = current.next;
33         }
34
35         newNode.next = current.next;
36         current.next = newNode;
37         return dummy.next;
38     }
39
40     public static Node InsertSort(Node head)
41     {
42         Node result = null;
43         Node current = head;
44         Node next;
45
46         while (current != null)
47         {
48             next = current.next;
49             result = SortedInsert(result, current);
50             current = next;
51         }
52
53         return result;
54     }
55
56     public static void main(String[] args)
57     {
```

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```
58     int[] keys = {6, 3, 4, 8, 2, 9};
59     Node head = null;
60     for (int i = keys.length - 1; i >= 0; i--)
61     {
62         head = new Node(keys[i], head);
63     }
64
65     head = InsertSort(head);
66     printList(head);
67 }
68 }
```