

```
1 package withoutUsingInnerClassObjext;
2
3
4 public class SortedInsertion {
5
6     Node head;
7
8     class Node{
9         int data;
10        Node next;
11
12        //creating a constructor for assigning value to data and next as null
13        Node(int data){
14            this.data = data;
15            next = null;
16        }
17
18    } // closing of class Node
19
20    // funciton of type Node will return a new node
21
22    Node newNode(int data) {
23        Node x = new Node(data);
24        return x;
25    }
26    void sortedInsert(Node new_node) {
27
28        Node curr ;
29
30        if(head == null || head.data > new_node.data) {
31            new_node.next = head;
32            head = new_node;
33        }
34        else { // we are trying to find out the appropriate place for insertion of the
new_node
35            curr = head;
36            while(curr.next!=null && curr.next.data < new_node.data) { // traversing till we
find the place to insert
37                curr = curr.next; // incrementing by single step
38            }
39            //insert the new node just after the while loop breaks.
40            new_node.next = curr.next; //careful
41            curr.next = new_node;
42        }
43    }
44
45
46    void printList() {
47        Node curr=head;
48
49        while(curr!=null) {
50            System.out.print(curr.data + " -> ");
51            curr = curr.next;
52        }
53        System.out.println("NULL"); // for new line only
54
55
```

```
56     }
57
58     public static void main(String[] args) {
59
60         SortedInsertion si = new SortedInsertion();
61         Node new_node;    // creating object of the inner class
62
63         //inserting the first value into the list
64         new_node = si.newNode(4);
65         si.sortedInsert(new_node);
66
67         //2nd value
68         new_node = si.newNode(5);
69         si.sortedInsert(new_node);
70
71         //3rd value
72         new_node = si.newNode(17);
73         si.sortedInsert(new_node);
74
75         //4th value
76         new_node = si.newNode(21);
77         si.sortedInsert(new_node);
78
79         //5th value
80         new_node = si.newNode(9);
81         si.sortedInsert(new_node);
82
83         si.printList();
84
85
86
87     }
88
89 }
90
```