21. Merge Two Sorted Lists

QuestionEditorial Solution
My Submissions

- Total Accepted: **169779**

- Total Submissions: **453050**

- Difficulty: **Easy**

- Contributors: **Admin**

Merge two sorted linked lists and return it as a new list. The new list should be made by splicing together the nodes of the first two lists.

e. g. , a = [1 3 5 7 9]

b = [2 4 6 8 10]

return [1 2 3 4 5 6 7 8 9 10]

Subscribe to see which companies asked this question

```
public class Merge_Sorted_list {

static class ListNode {
     int val;
         ListNode next;
         ListNode(int x) { val = x; }
};

public static ListNode mergeTwoLists(ListNode l1, ListNode l2)
{
     if(l1==null) return l2;
     if(l2==null) return l1;
     ListNode dummy = new ListNode(-1);
     ListNode p = dummy;
     for(; l1!=null && l2!=null; p=p.next)
     {
          if(l1.val>l2.val)
          {
               p.next=l2;
```

```
            l2=l2.next;
        }else{
            p.next=l1;
            l1=l1.next;
        }
    }
    p.next=l1!=null?l1:l2;
    return dummy.next;
}

public static ListNode addNode(ListNode node, int val)
{
    ListNode p = new ListNode(val);
    p.next = node;
    return p;
}

public static ListNode addNodeByArr(ListNode node,int[] arr) {
    int sz = arr.length;
    for(int i=0;i<sz;i++)
    {
        node = addNode(node,arr[i]);
    }
    //delete the last one
    ListNode p = node;
    for(int i=0;i<sz-1;i++) p=p.next;
    p.next = null;
    return node;
}

public static void printList(ListNode s)
{
    ListNode p = s;
    while(p!=null)
    {
        System.out.printf("%d ", p.val);
        p=p.next;
    }
}
public static void main(String[] args) {
// TODO Auto-generated method stub
EventQueue.invokeLater(new Runnable() {
    public void run() {
        try {
            ListNode s1 = new ListNode(-1);
            ListNode s2 = new ListNode(-1);
            int[] arr1 = {9,7,3,5,1};// 1,3,5,7,9
            int[] arr2 = {10,8,6,4,2};// 2,4,6,8,10
            s1 = addNodeByArr(s1,arr1);
            s2 = addNodeByArr(s2,arr2);
            ListNode ans = mergeTwoLists(s1,s2);
            printList(ans);
        } catch (Exception e) {
        e.printStackTrace();
        }
    }
    });
}

}
```