

## 21. Merge Two Sorted Lists

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You are given the heads of two sorted linked lists `list1` and `list2`.

Merge the two lists into one **sorted** list. The list should be made by splicing together the nodes of the first two lists.

Return *the head of the merged linked list*.

**Example 1:**



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Solved

### Code

```
1 struct ListNode* mergeTwoLists(struct ListNode* list1, struct ListNode* list2) {
2     struct ListNode dummy;
3     struct ListNode* tail = &dummy;
4     dummy.next = NULL;
5
6     while (list1 != NULL && list2 != NULL) {
7         if (list1->val < list2->val) {
8             tail->next = list1;
9             list1 = list1->next;
10        } else {
11            tail->next = list2;
12            list2 = list2->next;
13        }
14        tail = tail->next;
15    }
16
17    if (list1 != NULL)
18        tail->next = list1;
19    else
20        tail->next = list2;
21
22    return dummy.next;
23 }
```

Saved

Auto

Ln 7, Col 39