148 排序链表

题目描述

在 $O(n \log n)$ 时间复杂度和常数级空间复杂度下，对链表进行排序。

示例 1:

```
输入：4->2->1->3
输出：1->2->3->4
```

示例 2:

```
输入：-1->5->3->4->0
输出：-1->0->3->4->5
```

代码

归并排序，时间复杂度O(nlogn)，但是空间复杂度是O(n)

```python
# Definition for singly-linked list.
# class ListNode:
#     def __init__(self, x):
#         self.val = x
#         self.next = None

class Solution:
    def sortList(self, head: ListNode) -> ListNode:
        if not head or not head.next:
            return head

        slow, fast, prev = head, head, None
        while fast and fast.next:
            prev, fast, slow = slow, fast.next.next, slow.next

        prev.next = None
```

```
        one = self.sortList(head)
        two = self.sortList(slow)

        return self.merge(one, two)

    def merge(self, one, two):
        dummy = merged = ListNode(None)
        while one and two:
            if one.val <= two.val:
                merged.next = one
                one = one.next
            else:
                merged.next = two
                two = two.next
            merged = merged.next


        while one:
            merged.next = one
            one = one.next
            merged = merged.next
        while two:
            merged.next = two
            two = two.next
            merged = merged.next

        #merged.next = one or two

        return dummy.next

```

成功 显示详情 ›

执行用时 : 364 ms, 在Sort List的Python3提交中击败了38.14% 的用户

内存消耗 : 20.5 MB, 在Sort List的Python3提交中击败了87.17% 的用户

进行下一个挑战:

颜色分类 对链表进行插入排序

炫耀一下:

提交时间	状态	执行用时	内存消耗	语言
几秒前	通过	364 ms	20.5 MB	python3
1 分钟前	解答错误	N/A	N/A	python3
2 分钟前	解答错误	N/A	N/A	python3
3 分钟前	通过	288 ms	20.5 MB	python3
4 分钟前	解答错误	N/A	N/A	python3