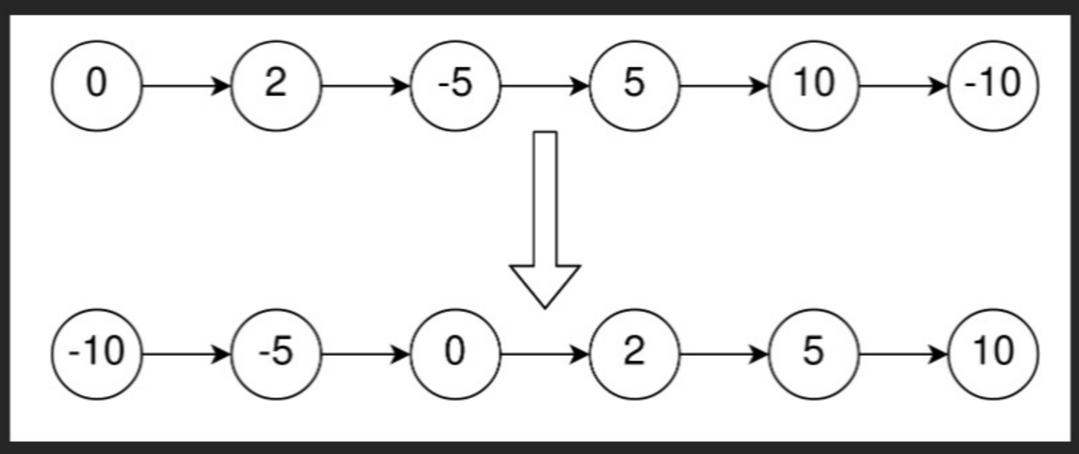
2046. Sort Linked List Already Sorted Using Absolute Values Premium

Medium Topics Hint

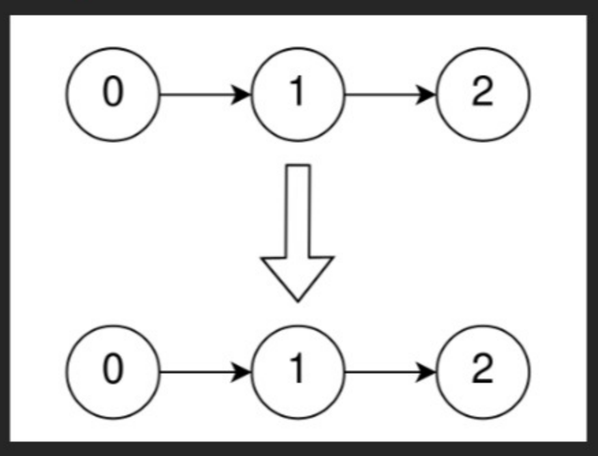
Given the `head` of a singly linked list that is sorted in **non-decreasing** order using the **absolute values** of its nodes, return *the list sorted in* ***non-decreasing*** *order using the* ***actual values*** *of its nodes.*

Example 1:




```
Input: head = [0,2,-5,5,10,-10]
Output: [-10,-5,0,2,5,10]
Explanation:
The list sorted in non-descending order using the absolute values of the nodes is [0,2,-5,5,10,-10].
The list sorted in non-descending order using the actual values is [-10,-5,0,2,5,10].
```

Example 2:




```
Input: head = [0,1,2]
Output: [0,1,2]
Explanation:
The linked list is already sorted in non-decreasing order.
```

Example 3:

```
Input: head = [1]
Output: [1]
Explanation:
The linked list is already sorted in non-decreasing order.
```

Constraints:

- The number of nodes in the list is the range `[1, 10^5]`.
- `-5000 <= Node.val <= 5000`
- `head` is sorted in non-decreasing order using the absolute value of its nodes.

Follow up:

- Can you think of a solution with `O(n)` time complexity?

Seen this question in a real interview before? 1/5

Yes No

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Topics

Linked List Two Pointers Sorting

Hint 1

The nodes with positive values are already in the correct order.

Hint 2

Nodes with negative values need to be moved to the front.

Hint 3

Nodes with negative values are in reversed order.

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