75 Days of Code Day 31 206. Reverse Linked List (leetcode)
Type : Linked List

Medium

Given the head of a singly linked list, reverse the list, and return the reversed list.

Example 1:

Input: head = [1,2,3,4,5]
Output: [5,4,3,2,1]
Example 2:

Input: head = [1,2]
Output: [2,1]
Example 3:

Input: head = []
Output: []

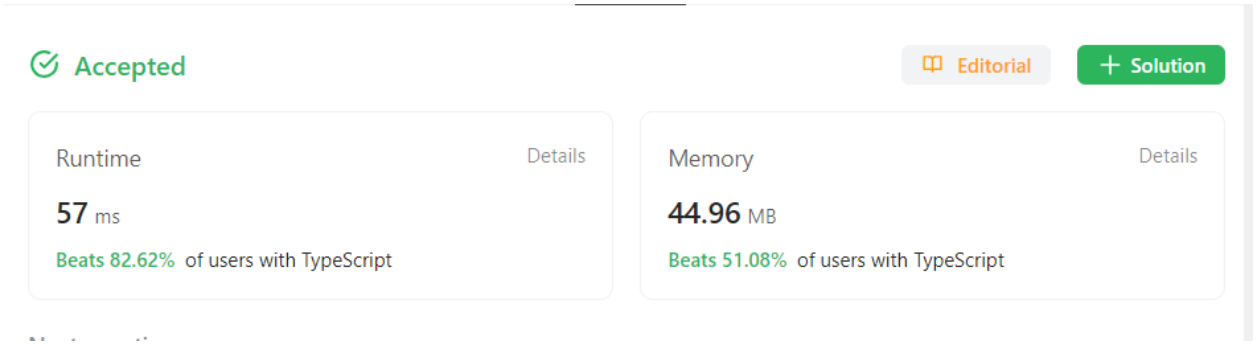
Solution using array

```typescript
function reverseList(head: ListNode | null): ListNode | null {
    if(!head || !head.next){
        return head;
    }
    let arrayList =[];
    let temp :ListNode = head;
    while(temp){
        arrayList.push(temp.val);
        temp = temp.next;
    }

    let newReverseList = new ListNode(arrayList[arrayList.length-1]);
    let current = newReverseList;
    for(let index =arrayList.length-2; index>=0 ;index-- ){
        current.next = new ListNode(arrayList[index]);
        current = current.next;
    }

    return newReverseList;

};
```



This solution fails o(1) space complexity so now

Solution in Optimize way

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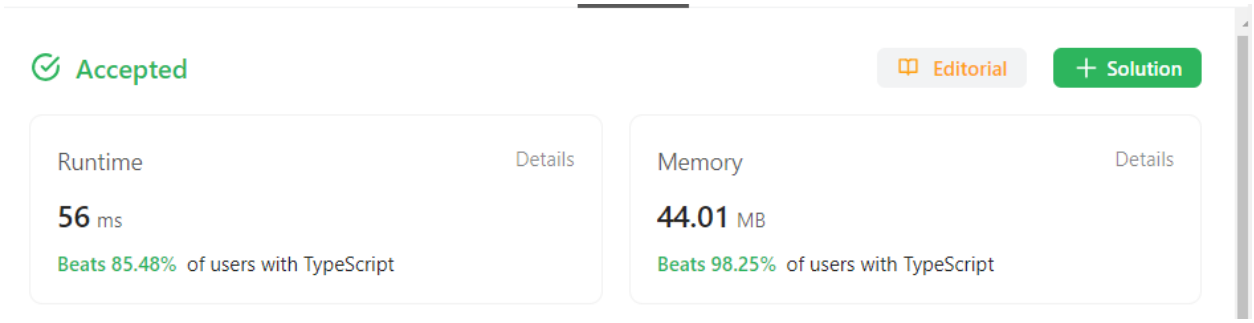
```typescript

function reverseList(head: ListNode | null): ListNode | null {
    if(!head || !head.next){
        return head;
    }
   let current :ListNode = head ;
   let prev:ListNode | null = null ;
   while(current){
       let nextNode :ListNode = current.next;
       current.next = prev;
       prev = current;
       current = nextNode;

   }
    return prev;

};
```



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