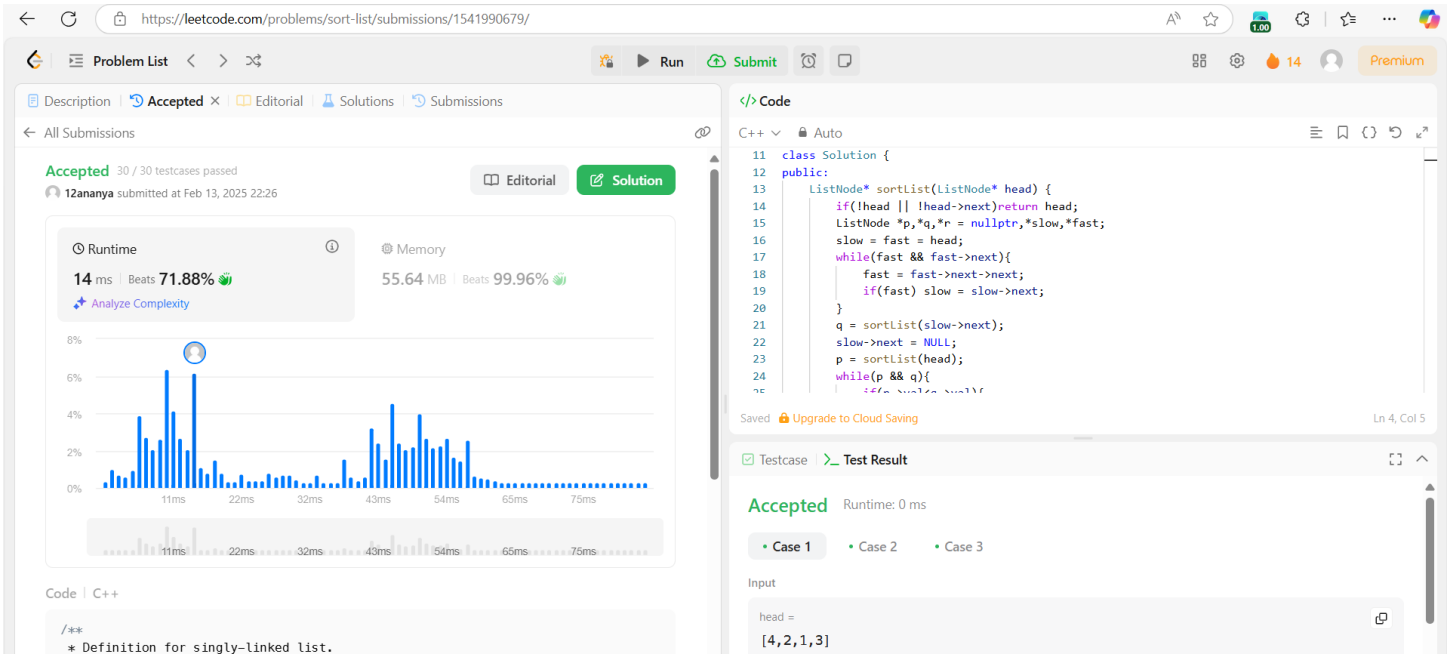
Sort List

```
class Solution {
public:
    ListNode* sortList(ListNode* head) {
        if(!head || !head->next)return head;
        ListNode *p,*q,*r = nullptr,*slow,*fast;
        slow = fast = head;
        while(fast && fast->next){
            fast = fast->next->next;
            if(fast) slow = slow->next;
        }
        q = sortList(slow->next);
        slow->next = NULL;
        p = sortList(head);
        while(p && q){
            if(p->val<q->val){
                if(!r){
                    r = p;
                    head = r;
                }
                else {
                    r->next = p;
                    r = r->next;
                }
                p = p->next;
            }else{
                if(!r){
                    r = q;
                    head = r;
                }
                else {
                    r->next = q;
                    r = r->next;
                }
                q = q->next;
            }
        }
        while(p){
            r->next = p;
            r = r->next;
            p = p->next;
        }
        while(q){
            r->next = q;
            r = r->next;
            q = q->next;
        }
        return head;
    }
};
```


https://leetcode.com/problems/sort-list/submissions/1541990679/
Problem List
Run
Submit
Premium
Description
Accepted
Editorial
Solutions
Submissions
All Submissions
Accepted
30 / 30 testcases passed
12ananya submitted at Feb 13, 2025 22:26
Editorial
Solution
Runtime
14 ms | Beats 71.88%
Analyze Complexity
Memory
55.64 MB | Beats 99.96%
8%
6%
4%
2%
0%
11ms
22ms
32ms
43ms
54ms
65ms
75ms
Code | C++
/**
* Definition for singly-linked list.
Code
C++
Auto
class Solution {
public:
ListNode* sortList(ListNode* head) {
if(!head || !head->next)return head;
ListNode *p,*q,*r = nullptr,*slow,*fast;
slow = fast = head;
while(fast && fast->next){
fast = fast->next->next;
if(fast) slow = slow->next;
}
q = sortList(slow->next);
slow->next = NULL;
p = sortList(head);
while(p && q){
Saved
Upgrade to Cloud Saving
Ln 4, Col 5
Testcase
Test Result
Accepted
Runtime: 0 ms
Case 1
Case 2
Case 3
Input
head =
[4,2,1,3]