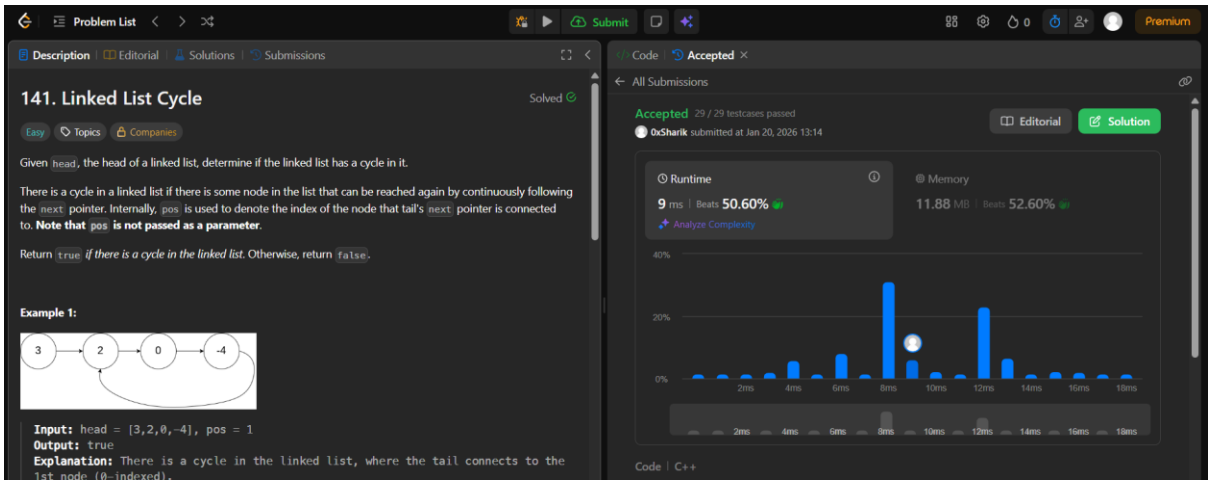
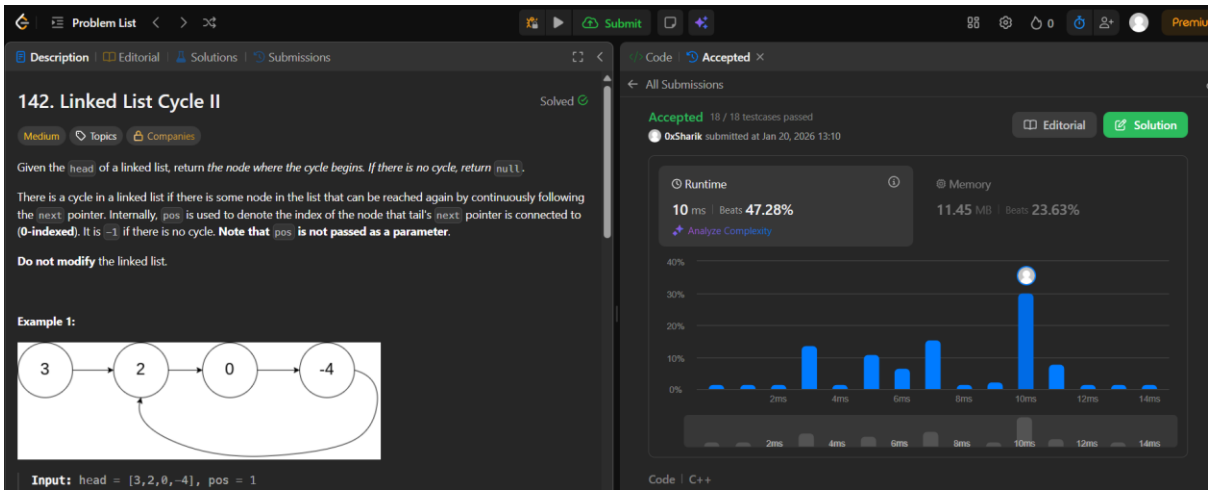
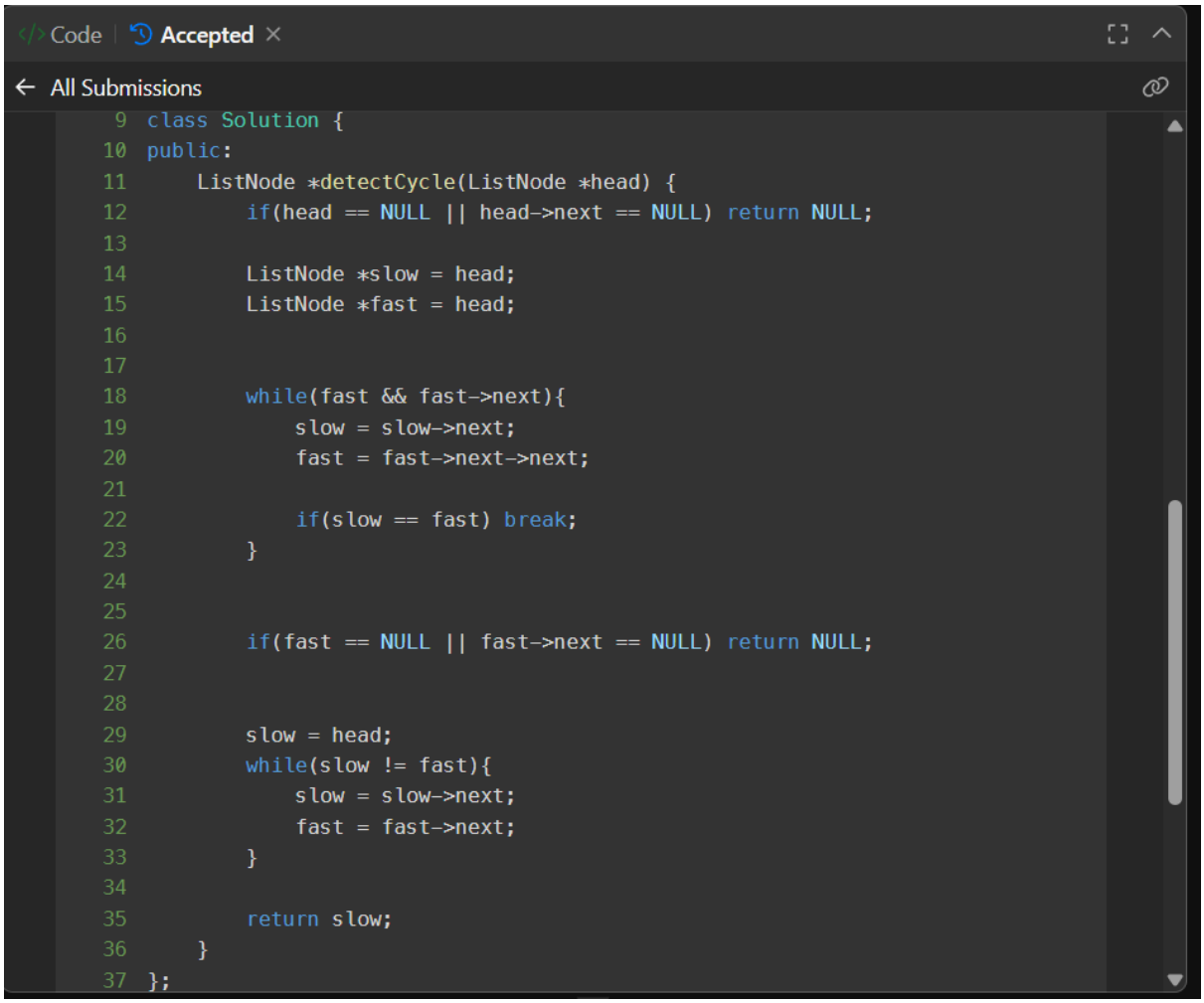
PROBLEM 1



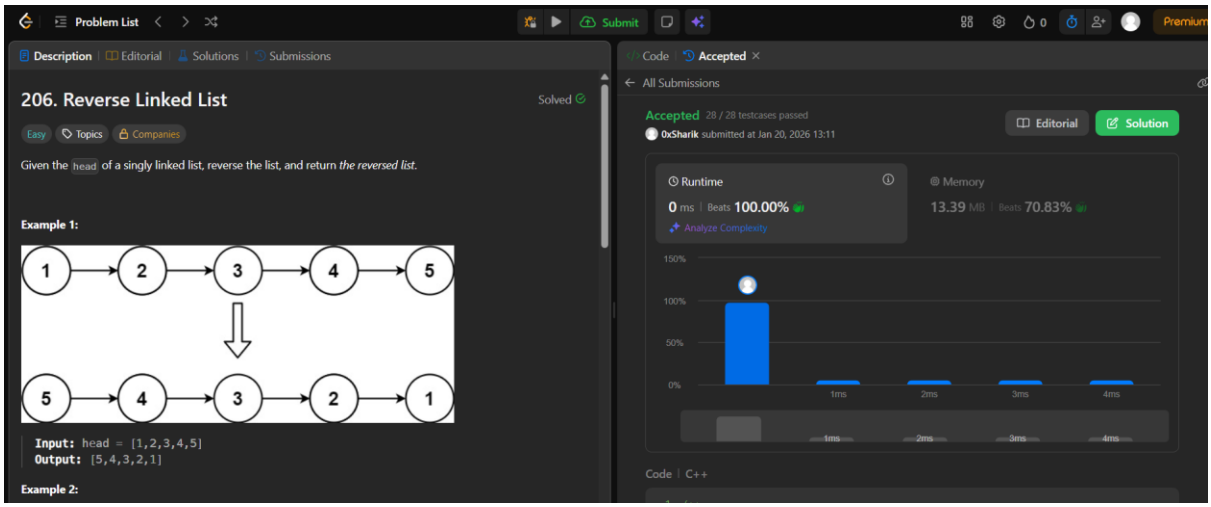

```cpp
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode(int x) : val(x), next(NULL) {}
 * };
 */
class Solution {
public:
    bool hasCycle(ListNode *head) {
        if (head == NULL || head->next == NULL)
            return false;

        ListNode* slow = head;
        ListNode* fast = head;

        while (fast != NULL && fast->next != NULL) {
            slow = slow->next;
            fast = fast->next->next;

            if (slow == fast)
                return true;
        }

        return false;
    }
};

```

PROBLEM 2


Problem List
Submit
Description
Editorial
Solutions
Submissions
142. Linked List Cycle II
Solved
Medium
Topics
Companies
Given the head of a linked list, return the node where the cycle begins. If there is no cycle, return null.
There is a cycle in a linked list if there is some node in the list that can be reached again by continuously following the next pointer. Internally, pos is used to denote the index of the node that tail's next pointer is connected to (0-indexed). It is -1 if there is no cycle. Note that pos is not passed as a parameter.
Do not modify the linked list.
Example 1:
3
2
0
-4
Input: head = [3,2,0,-4], pos = 1
Code
Accepted
All Submissions
Accepted 18 / 18 testcases passed
0xSharik submitted at Jan 20, 2026 13:10
Editorial
Solution
Runtime
10 ms | Beats 47.28%
Analyze Complexity
Memory
11.45 MB | Beats 23.63%
40%
30%
20%
10%
0%
2ms
4ms
6ms
8ms
10ms
12ms
14ms
Code | C++


Code
Accepted
All Submissions
class Solution {
public:
ListNode *detectCycle(ListNode *head) {
if(head == NULL || head->next == NULL) return NULL;
ListNode *slow = head;
ListNode *fast = head;
while(fast && fast->next){
slow = slow->next;
fast = fast->next->next;
if(slow == fast) break;
}
if(fast == NULL || fast->next == NULL) return NULL;
slow = head;
while(slow != fast){
slow = slow->next;
fast = fast->next;
}
return slow;
}
};

PROBLEM 3

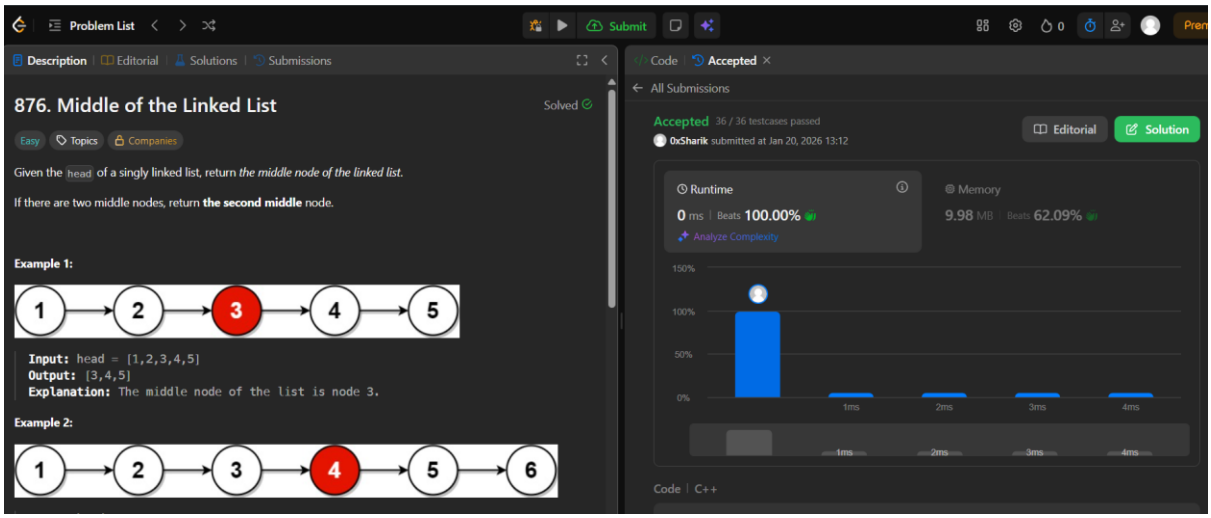


Code | Accepted ×

← All Submissions

```cpp
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
class Solution {
public:
    ListNode* reverseList(ListNode* head) {
        ListNode* prev = NULL;
        ListNode* curr = head;

        while (curr != NULL) {
            ListNode* nextNode = curr->next;
            curr->next = prev;
            prev = curr;
            curr = nextNode;
        }

        return prev;
    }
};
```

PROBLEM 4



Code | C++

```cpp
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
class Solution {
public:
    ListNode* middleNode(ListNode* head) {
        ListNode* slow = head;
        ListNode* fast = head;

        while (fast != NULL && fast->next != NULL) {
            slow = slow->next;
            fast = fast->next->next;
        }

        return slow;
    }
};

```