876. Middle of the Linked List

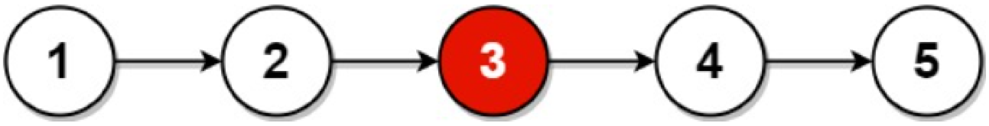
Solved ✓

Easy Topics Companies

Given the `head` of a singly linked list, return *the middle node of the linked list*.

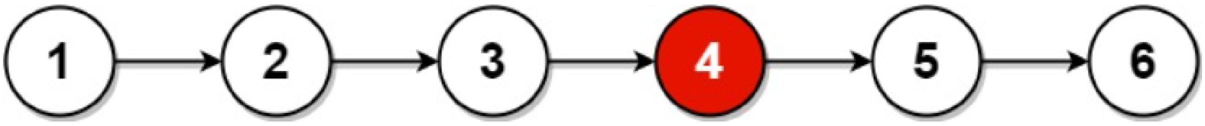
If there are two middle nodes, return **the second middle** node.

Example 1:

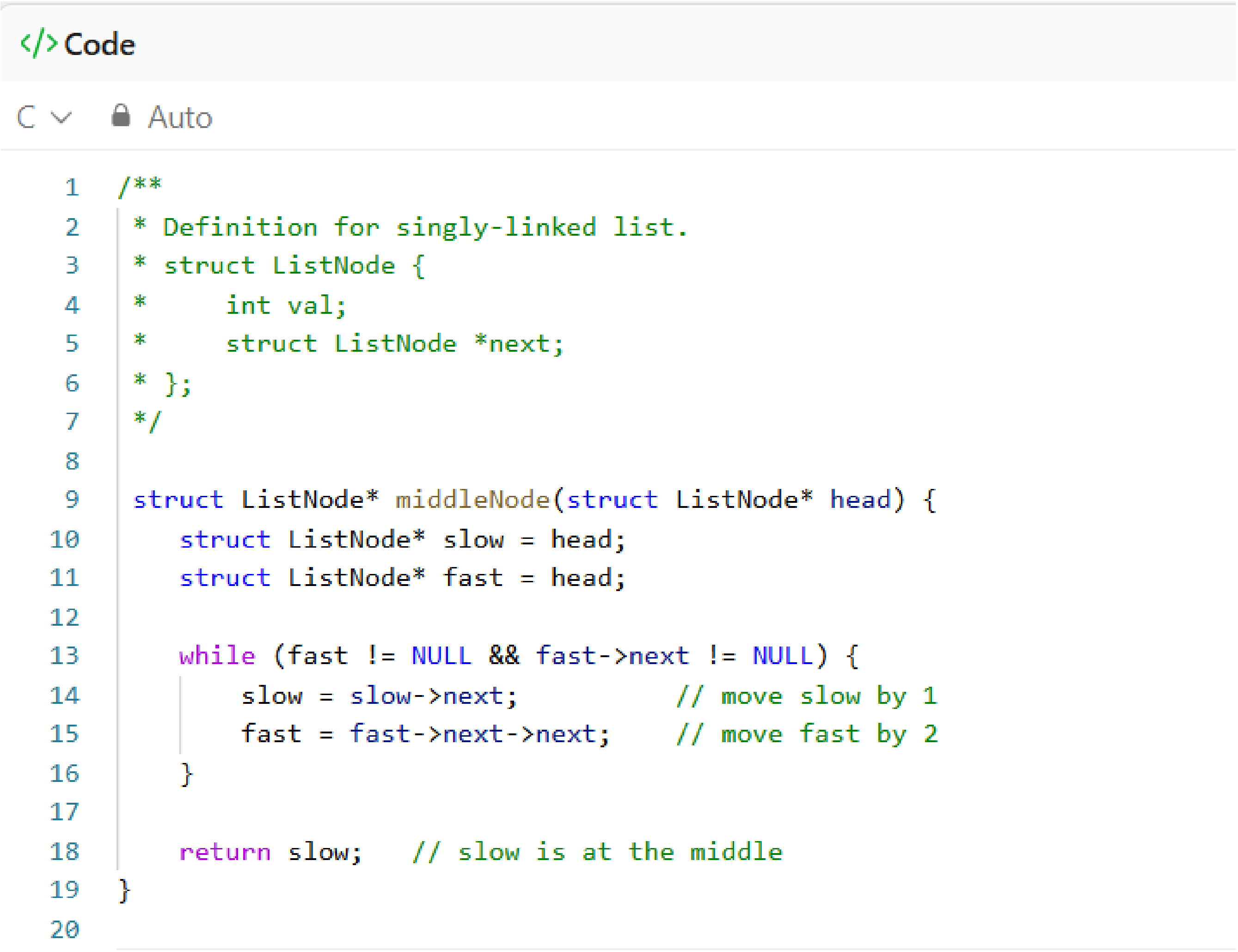


```
Input: head = [1,2,3,4,5]
Output: [3,4,5]
Explanation: The middle node of the list is node 3.
```

Example 2:



```
Input: head = [1,2,3,4,5,6]
Output: [4,5,6]
Explanation: Since the list has two middle nodes with values 3 and 4, we return
the second one.
```



```c
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     struct ListNode *next;
 * };
 */

struct ListNode* middleNode(struct ListNode* head) {
    struct ListNode* slow = head;
    struct ListNode* fast = head;

    while (fast != NULL && fast->next != NULL) {
        slow = slow->next;          // move slow by 1
        fast = fast->next->next;    // move fast by 2
    }

    return slow;   // slow is at the middle
}
```