

```
1  /**
2   * Definition for singly-linked list.
3   * struct ListNode {
4   *     int val;
5   *     ListNode *next;
6   *     ListNode() : val(0), next(nullptr) {}
7   *     ListNode(int x) : val(x), next(nullptr) {}
8   *     ListNode(int x, ListNode *next) : val(x), next(next) {}
9   * };
10 */
11 class Solution {
12 public:
13     ListNode* removeNthFromEnd(ListNode* head, int n) {
14         ListNode* current = head;
15         int i = 0;
16
17         // 计算链表的长度
18         while (current != nullptr) {
19             current = current->next;
20             i++;
21         }
22
23         // 处理删除头节点的情况
24         if (n == i) {
25             return head->next; // 返回新头节点
26         }
27
28         // 找到要删除节点的前一个节点
29         int b = i - n - 1;
30         current = head;
31
32         for (int j = 0; j < b; j++) {
33             current = current->next;
34         }
35
36         // 删除节点
37         ListNode* current_beifen = current->next;
38         current->next = current_beifen->next;
39         current_beifen->next = nullptr;
40
41         return head;
```

42 }

43 };` ``

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