

LINKED LIST

Problem – 206. Reverse Linked List

Easy

 leetcode.com/problems/reverse-linked-list

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 141. Linked List Cycle

Easy



LeetCode

leetcode.com/problems/linked-list-cycle

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 21. Merge Two Sorted Lists

Easy

 leetcode.com/problems/merge-two-sorted-lists

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 23. Merge k Sorted Lists

Hard

 LeetCode leetcode.com/problems/merge-k-sorted-lists

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 19. Remove Nth Node From End of List

Medium

 leetcode.com/problems/remove-nth-node-from-end-of-list

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 143. Reorder List

Medium



LeetCode

leetcode.com/problems/reorder-list

Problem Statement / Solution / Code Time: $O(n)$ Space: $O(n)$

■ ...

Problem – 24. Swap Nodes in Pair

Medium

<https://leetcode.com/problems/swap-nodes-in-pairs>

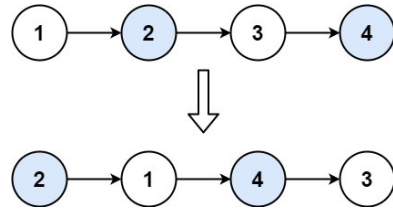
Problem

Given a linked list, swap every two adjacent nodes and return its head. You must solve the problem without modifying the values in the list's nodes (i.e., only nodes themselves may be changed.)

Example 1

Input: head = [1,2,3,4]

Output: [2,1,4,3]



Example 2

Input: head = []

Output: []

Example 3:

Example 3

Input: head = [1]

Output: [1]

Solution – Swap Nodes in Pair

Medium

<https://leetcode.com/problems/swap-nodes-in-pairs>

```
ListNode* swapPairs(ListNode* head) {
    if (head == NULL || head->next == NULL) {
        return head;
    }
    ListNode *node = head;
    ListNode *prev = NULL;
    head = head->next;

    while (node && node->next) {
        ListNode *second = node->next;
        ListNode *next_pair = second->next;
        second->next = node;
        node->next = next_pair;
        if (prev) {
            prev->next = second;
        }
        prev = node;
        node = next_pair;
    }
    return head;
}
```

Solution (recursive) – Swap Nodes in Pair

Medium

<https://leetcode.com/problems/swap-nodes-in-pairs>

```
ListNode* swapPairs(ListNode* head) {  
    if(!head || !head->next)  
        return head;  
    ListNode* newHead = head->next;  
    head->next = swapPairs(head->next->next);  
    newHead->next = head;  
    return newHead;  
}
```