

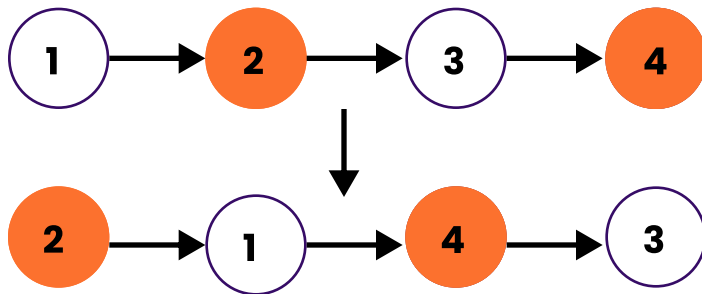
Linked_list-4

Assignment Questions

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1. 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:

Input: head = [1]

Output: [1]

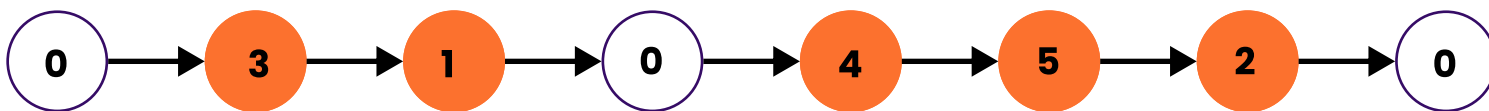
Constraints:

- The number of nodes in the list is in the range $[0, 100]$.
- $0 \leq \text{Node.val} \leq 100$

2. You are given the head of a linked list, which contains a series of integers separated by 0's. The beginning and end of the linked list will have Node.val == 0.

For every two consecutive 0's, merge all the nodes lying in between them into a single node whose value is the sum of all the merged nodes. The modified list should not contain any 0's. Return the head of the modified linked list.

Example 1:



Input: head = [0,3,1,0,4,5,2,0]

Output: [4,11]

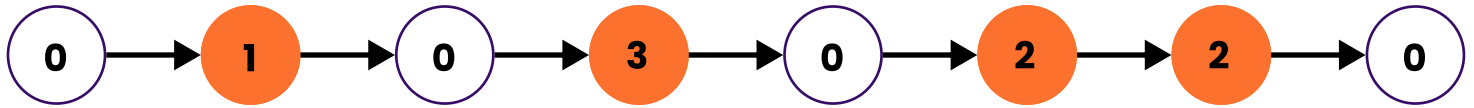
Explanation:

The above figure represents the given linked list. The modified list contains

- The sum of the nodes marked in green: $3 + 1 = 4$.
- The sum of the nodes marked in red: $4 + 5 + 2 = 11$.

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Example 2:



Input: head = [0,1,0,3,0,2,2,0]

Output: [1,3,4]

Explanation:

The above figure represents the given linked list. The modified list contains

- The sum of the nodes marked in green: 1 = 1.
- The sum of the nodes marked in red: 3 = 3.
- The sum of the nodes marked in yellow: 2 + 2 = 4.

Constraints:

- The number of nodes in the list is in the range [3, 2 * 10⁵].
- 0 ≤ Node.val ≤ 1000
- There are no two consecutive nodes with Node.val == 0.
- The beginning and end of the linked list have Node.val == 0.