Is Linked List Length Even?

solved by	Senan
Platform	GeeksForGeeks
difficulty	Easy
tags	Linked List
language	C++
solved on	@03/11/2024
link	https://www.geeksforgeeks.org/problems/linked-list-length-even-or-odd/1
Completion	☑

Intuition

The problem aims to determine whether the length of a linked list is even or odd. To do so, we need to traverse the list and count the number of nodes. The intuition here is simple: if the total count of nodes in the list is even, the result should be `true`; otherwise, it should be `false`.

Approach

1. Initialize a counter (`length`) to zero.
2. Traverse the linked list starting from the head node.
3. For each node encountered, increment the counter.
4. Once traversal is complete, check if the counter is even or odd.
5. Return `true` if even, otherwise return `false`.

Complexity

Time Complexity:

- **O(n)**: Where `n` is the number of nodes in the linked list. We need to traverse the entire list to count the number of nodes.

Space Complexity:

- **O(1)**: Constant space as we only use a few auxiliary variables.

Code

```
class Solution {
  public:
    bool isLengthEven(struct Node **head) {
        int length = 0;
        Node* temp = *head;
        while(temp) {
            length++;
            temp = temp->next;
        }
        return length % 2 == 0;
```

```
    }
};
```