Count Linked List Nodes

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Platform	GeeksForGeeks
difficulty	Easy
tags	Linked List
language	C++
solved on	@14/10/2024
link	https://www.geeksforgeeks.org/problems/count-nodes-of-linked-list/1
Completion	☑

Intuition

The problem requires us to count the number of nodes present in a singly linked list. We can achieve this by traversing the list from the head to the end, incrementing a counter for each node we encounter until we reach a `NULL` pointer, indicating the end of the list.

Approach

1. Initialize a counter variable to zero.
2. Create a temporary pointer to traverse the linked list, starting at the head.
3. Use a loop to traverse through the linked list:
    - For each node, increment the counter.
    - Move the temporary pointer to the next node.
4. Continue this until the temporary pointer reaches `NULL`.
5. Return the count after the traversal is complete.

Complexity

Time Complexity:

- **O(n)**, where `n` is the number of nodes in the linked list. This is because we need to visit each node exactly once to count them.

Space Complexity:

- **O(1)**, as we are using a constant amount of space (only a few integer variables) regardless of the size of the linked list.

Code

```
class Solution {
  public:
    // Function to count nodes of a linked list.
    int getCount(struct Node* head) {
        int count = 0;
        Node* temp = head;
        while(temp != NULL) {
```

```
            count++;
            temp = temp->next;
        }
        return count;
    }
};
```