MCS – 253P ADVANCED PROGRAMMING AND PROBLEM SOLVING

LAB 4 Write Up (Add Two Numbers II)

Aswin Sampath
saswin@uci.edu
53844684

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Question:

Description Editorial Solutions (4K) Submissions

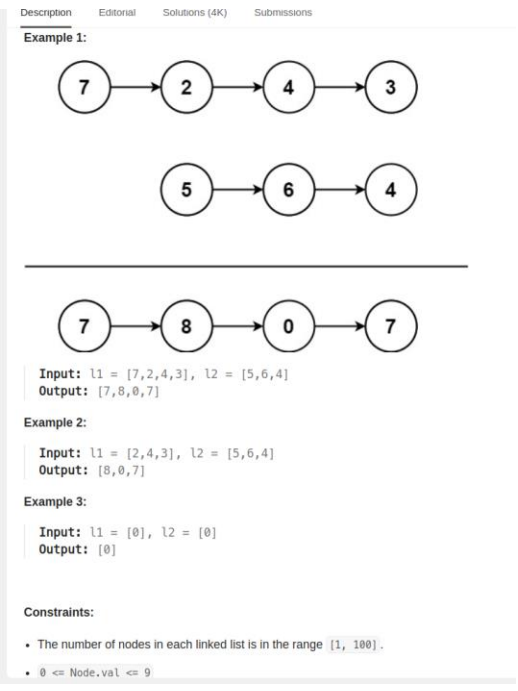
445. Add Two Numbers II

Medium 5.7K 279

Companies

You are given two **non-empty** linked lists representing two non-negative integers. The most significant digit comes first and each of their nodes contains a single digit. Add the two numbers and return the sum as a linked list.

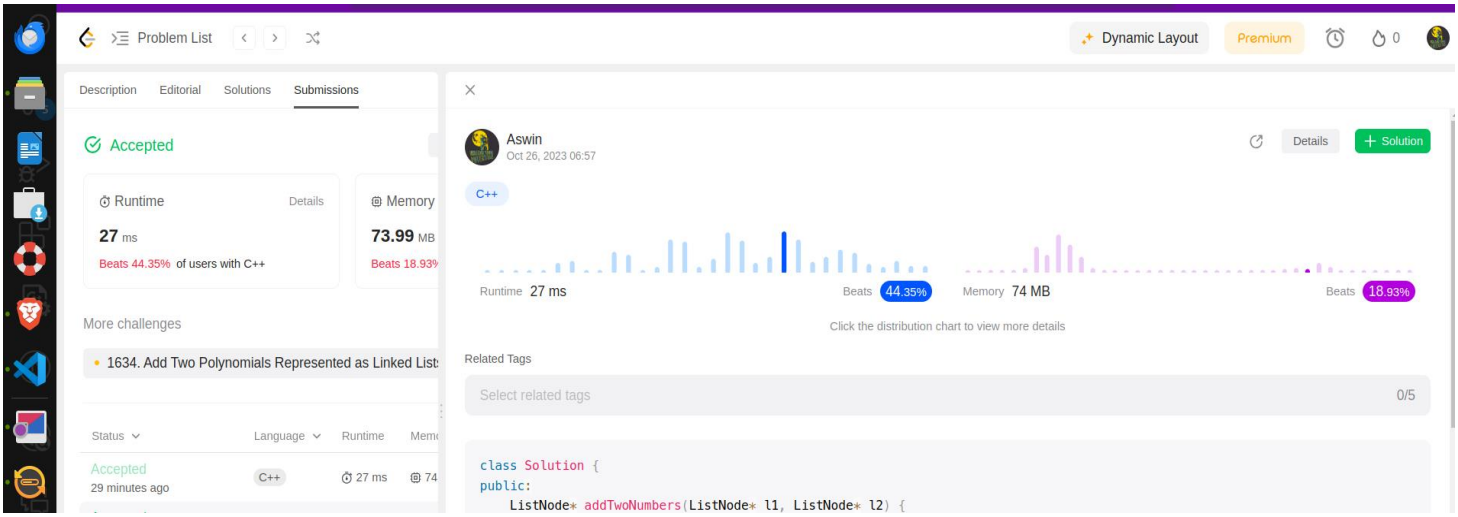
You may assume the two numbers do not contain any leading zero, except the number 0 itself.



Code

```cpp
class Solution {
public:
    ListNode* addTwoNumbers(ListNode* l1, ListNode* l2) {
        stack<int> s1, s2;
        ListNode* current = l1;

        while (current) {
            s1.push(current->val);
            current = current->next;
        }

        current = l2;

        while (current) {
            s2.push(current->val);
            current = current->next;
        }

        int carry = 0;
        ListNode* result = nullptr;

        while (!s1.empty() || !s2.empty() || carry) {
            int sum = carry;

            if (!s1.empty()) {
                sum += s1.top();
                s1.pop();
            }

            if (!s2.empty()) {
                sum += s2.top();
                s2.pop();
            }

            carry = sum / 10;
            sum %= 10;

            ListNode* newNode = new ListNode(sum);
            newNode->next = result;
            result = newNode;
        }

        return result;
    }
};
```

Output:


Problem List
Dynamic Layout
Premium
Description
Editorial
Solutions
Submissions
Accepted
Runtime
Details
27 ms
Beats 44.35% of users with C++
Memory
73.99 MB
Beats 18.93%
More challenges
1634. Add Two Polynomials Represented as Linked List
Status
Language
Runtime
Accepted
29 minutes ago
C++
27 ms
Aswin
Oct 26, 2023 06:57
Details
Solution
C++
Runtime 27 ms
Beats 44.35%
Memory 74 MB
Beats 18.93%
Click the distribution chart to view more details
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0/5
class Solution {
public:
ListNode* addTwoNumbers(ListNode* l1, ListNode* l2) {