

2. Add Two Numbers

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Total Accepted: **234624** Total Submissions: **889792** Difficulty: **Medium** Contributors: **Admin**

You are given two **non-empty** linked lists representing two non-negative integers. The digits are stored in reverse order and each of their nodes contain a single digit. Add the two numbers and return it as a linked list.

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

Input: (2 -> 4 -> 3) + (5 -> 6 -> 4)

Output: 7 -> 0 -> 8

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C++




```
1 /**
2  * Definition for singly-linked list.
3  * struct ListNode {
4  *     int val;
5  *     ListNode *next;
6  *     ListNode(int x) : val(x), next(NULL) {}
7  * };
8  */
9 class Solution {
10 public:
11     ListNode* addTwoNumbers(ListNode* l1, ListNode* l2) {
12         ListNode * dummy = new ListNode(0);
13         ListNode * cur = dummy;
14         int carrier = 0;
15         int val;
16         while(l1!=NULL&&l2!=NULL){
17             val = carrier + l1->val + l2->val;
18             l1->val = val%10;
19             carrier = val/10;
20             cur-> next = l1;
21             l1 = l1->next;
22             l2 = l2->next;
23             cur = cur->next;
24         }
25
26
27         if(l1!=NULL){
28             while(l1!=NULL){
29                 val = l1->val +carrier;
30                 l1->val = val%10;
31                 carrier = val/10;
32                 cur-> next = l1;
33                 l1 = l1->next;
34                 cur = cur->next;
35                 if(carrier==0) break;
36             }
37         }
38
39         if(l2!=NULL){
40             while(l2!=NULL){
41                 val = l2->val +carrier;
42                 l2->val = val%10;
43                 carrier = val/10;
44                 cur-> next = l2;
45                 l2 = l2->next;
46                 cur = cur->next;
```

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Notes

```
47         if(carrier==0) break;
48     }
49 }
50
51 if(l1==NULL&&l2==NULL){
52     if(carrier>0)
53         cur->next = new ListNode(carrier);
54 }
55 return dummy->next;
56
57 }
58 }
```

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