Problem # 2: Add Two Numbers (Medium)

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<https://leetcode.com/problems/add-two-numbers/>

My Solution:

Runtime beats 52.70%

1. Initialize l3 to ListNode with val of 0 to store the result.

2. Initialize carryover to 0, cur1 to l1, cur2 to l2 and cur3 to l3, where cur1, cur2 and cur3 are the pointers to l1, l2 and l3 respectively.

3. While cur1 is not None, or cur2 is not None, or carryover is greater than 0,

Initialize val1 and val2 to 0.

If cur1 is not None, set val1 to cur1.val, and cur1 is moved to cur1.next.

If cur2 is not None, set val2 to cur2.val, and cur2 is moved to cur2.next.

Set the total to the sum of val1, val2 and carryover.

Then carryover is set to total integer divided by 10.

Total itself is set to total modulo 10.

Set cur3.next to ListNode with val = total.

Move cur3 to cur3.next.

4. Return l3.next.

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# Definition for singly-linked list.

# class ListNode:

# def \_\_init\_\_(self, val=0, next=None):

# self.val = val

# self.next = next

class Solution:

def addTwoNumbers(self, l1: ListNode, l2: ListNode) -> ListNode:

l3 = ListNode(0)

carryover = 0

cur1 = l1

cur2 = l2

cur3 = l3

while cur1 or cur2 or carryover:

val1 = 0

val2 = 0

if cur1:

val1 = cur1.val

cur1 = cur1.next

if cur2:

val2 = cur2.val

cur2 = cur2.next

total = val1 + val2 + carryover

carryover = total//10

total = total % 10

cur3.next = ListNode(total)

cur3 = cur3.next

return l3.next

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