



Hi, here's your problem today. This problem was recently asked by Microsoft:

You are given two 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.

Example:

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

Output: 7 -> 0 -> 8

Explanation: 342 + 465 = 807.

Here is the function signature as a starting point (in Python):

```
# Definition for singly-linked list.
class ListNode(object):
    def __init__(self, x):
        self.val = x
        self.next = None

class Solution:
    def addTwoNumbers(self, l1, l2, c = 0):
        # Fill this in.

l1 = ListNode(2)
l1.next = ListNode(4)
l1.next.next = ListNode(3)

l2 = ListNode(5)
l2.next = ListNode(6)
l2.next.next = ListNode(4)

result = Solution().addTwoNumbers(l1, l2)
while result:
    print result.val,
    result = result.next
# 7 0 8
```

Why Python? We recommend using Python as a generalist language for interviewing, as it is well-regarded in the tech industry and used across Google/YouTube, Facebook/Instagram, Netflix, Uber, Dropbox, Pinterest, Spotify, etc.,. It is easy to learn with readable syntax, and very similar in structure to other popular languages like Java, C/C++, Javascript, PHP, Ruby, etc. Python is generally faster to read/write though, which makes it ideal for interviews. You can, of course, use any language you like!

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