

[Daily Problem] Reverse a Linked List

1 message

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Tue, Apr 21, 2020 at 10:57 AM



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

Given a singly-linked list, reverse the list. This can be done iteratively or recursively. Can you get both solutions?

Example:

Input: 4 -> 3 -> 2 -> 1 -> 0 -> NULL
Output: 0 -> 1 -> 2 -> 3 -> 4 -> NULL

```
class ListNode(object):
    def __init__(self, x):
        self.val = x
        self.next = None

    # Function to print the list
    def printList(self):
        node = self
        output = ''
        while node != None:
            output += str(node.val)
            output += " "
            node = node.next
        print(output)

    # Iterative Solution
    def reverseIteratively(self, head):
        # Implement this.

    # Recursive Solution
    def reverseRecursively(self, head):
        # Implement this.

# Test Program
# Initialize the test list:
testHead = ListNode(4)
node1 = ListNode(3)
testHead.next = node1
node2 = ListNode(2)
node1.next = node2
node3 = ListNode(1)
node2.next = node3
testTail = ListNode(0)
node3.next = testTail

print("Initial list: ")
testHead.printList()
# 4 3 2 1 0
testHead.reverseIteratively(testHead)
#testHead.reverseRecursively(testHead)
print("List after reversal: ")
testTail.printList()
# 0 1 2 3 4
```

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