# dummy node to point at new head

dummy = cur = ListNode()

while list1 and list2:

if list1.val < list2.val:

cur.next = list1

list1 = list1.next

else:

cur.next = list2

list2 = list2.next

cur = cur.next

# 2 possibilites- either both ll gets over at same time. or 1 is longer than other

if list1:

cur.next = list1

if list2:

cur.next = list2

return dummy.next