# [合并两个有序链表](https://leetcode-cn.com/explore/interview/card/bytedance/244/linked-list-and-tree/1048/)

## 题目

将两个有序链表合并为一个新的有序链表并返回。新链表是通过拼接给定的两个链表的所有节点组成的。

示例：  
  
输入：1->2->4, 1->3->4  
输出：1->1->2->3->4->4

## 解题思路

public ListNode mergeTwoLists(ListNode l1, ListNode l2) {  
 if (l1 == null && l2 == null) {  
 return null;  
 }  
  
 if (l1 == null) {  
 return l2;  
 }  
  
 if (l2 == null) {  
 return l1;  
 }  
  
 ListNode head;  
  
 if (l1.val > l2.val) {  
 head = l2;  
 l2 = l2.next;  
 } else {  
 head = l1;  
 l1 = l1.next;  
 }  
  
 ListNode res = head;  
 while (true) {  
 ListNode cur;  
 if (l1 == null && l2 == null) {  
 break;  
 }  
  
 if (l1 == null) {  
 cur = l2;  
 l2 = l2.next;  
 } else if (l2 == null) {  
 cur = l1;  
 l1 = l1.next;  
 } else if (l1.val > l2.val) {  
 cur = l2;  
 l2 = l2.next;  
 } else {  
 cur = l1;  
 l1 = l1.next;  
 }  
  
 head.next = cur;  
 head = head.next;  
 }  
  
 return res;  
}