leetCode:  
2. Add Two Numbers

You are given two linked lists representing two non-negative numbers. 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.

**Input:** (2 -> 4 -> 3) + (5 -> 6 -> 4)  
**Output:** 7 -> 0 -> 8

第一次答案：迭代的方法

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| /\*\*  \* Definition for singly-linked list.  \* public class ListNode {  \* int val;  \* ListNode next;  \* ListNode(int x) { val = x; }  \* }  \*/  public class Solution {  public ListNode addTwoNumbers(ListNode l1, ListNode l2) {  int sum = 0;  ListNode newHead = new ListNode(0);  ListNode node = newHead;  while(l1!=null || l2!=null){  if (l1 != null){  sum += l1.val;  l1 = l1.next;  }  if (l2 != null){  sum += l2.val;  l2 = l2.next;  }  node.next = new ListNode(sum%10);  node = node.next;  sum = sum /10;  }  if (sum==1){  node.next = new ListNode(1);  }  return newHead.next;  }  } |

第二次用递归的方法

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| public class Solution{  public ListNode addTwoNumbers(ListNode l1, ListNode l2) {  int sum = 0;  ListNode newHead = new ListNode(0);  ListNode node = newHead;  tools(l1,l2,newHead,sum);  return newHead.next;  }  private boolean tools(ListNode l1,ListNode l2,ListNode head,int c){  if(l1!=null || l2!=null){  if(l1!=null){  c +=l1.val;  l1 = l1.next;  }  if(l2!=null){  c +=l2.val;  l2 = l2.next;  }  head.next = new ListNode(c%10);  tools(l1,l2,head.next,c/10);  }else{  if(c==1){  head.next = new ListNode(1);  }  return true;  }  return false;  }  } |