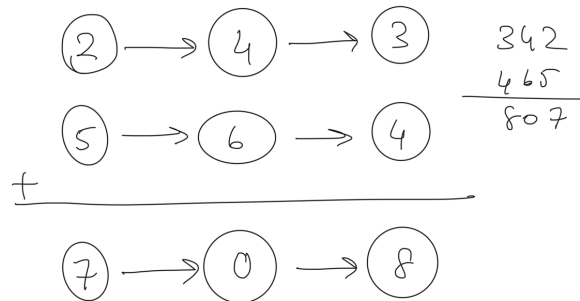# 2. Add Two Numbers

Non-empty linked list   two non-negative integer

stored reversed order
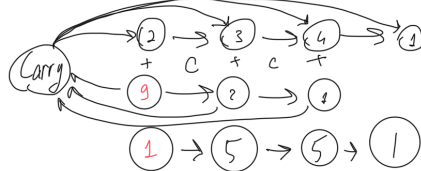
Each Nodes contains singk digit

Add   two numbers and return the sum

as a linkedlist

$$342$$
$$465$$
$$807$$

Edge Cases

→ two linked list have different number of nodes?

```
List Node  resul = new ListNode(0)
List Node  p  = l1
List Node  q  = l2        curr = result

int carry = 0
while ( p != null || q != null ) {
int x = p.next    // 2
int y = q.next    // 9

int  sum = x + y + carry    9 + 2 = 11

carry = sum % 10    // 1

curr.next = new ListNode(sum % 10);  (1)

curr = curr.next

   if ( p != null ) p = p.next
   if ( q != null ) q = q.next )
 )
   if ( carry > 0 )

     curr.next = new ListNode(carry)
```