Question 2

Ans:

In [27]:
```
class ListNode:
    def __init__(self, val=0, next=None):
        self.val = val
        self.next = next


def addTwoNumbers(l1, l2):
    dummy = ListNode(0)
    curr = dummy
    carry = 0

    while l1 or l2:
        sum = carry

        if l1:
            sum += l1.val
            l1 = l1.next

        if l2:
            sum += l2.val
            l2 = l2.next

        curr.next = ListNode(sum % 10)
        curr = curr.next
        carry = sum // 10

    if carry > 0:
        curr.next = ListNode(carry)

    return dummy.next
```

In [28]:
```
# Example 1
l1 = ListNode(2)
l1.next = ListNode(4)
l1.next.next = ListNode(3)

l2 = ListNode(5)
l2.next = ListNode(6)
l2.next.next = ListNode(4)

result = addTwoNumbers(l1, l2)
while result:
    print(result.val, end=" ")
    result = result.next
```

```
7 0 8
```

In [29]:
```
# Example 2
l1 = ListNode(0)
l2 = ListNode(0)

result = addTwoNumbers(l1, l2)
while result:
    print(result.val, end=" ")
    result = result.next
```

```
0
```

In [30]:
```
# Example 3
l1 = ListNode(9)
l1.next = ListNode(9)
l1.next.next = ListNode(9)
l1.next.next.next = ListNode(9)
l1.next.next.next.next = ListNode(9)
l1.next.next.next.next.next = ListNode(9)
l1.next.next.next.next.next.next = ListNode(9)

l2 = ListNode(9)
l2.next = ListNode(9)
l2.next.next = ListNode(9)
l2.next.next.next = ListNode(9)

result = addTwoNumbers(l1, l2)
while result:
    print(result.val, end=" ")
    result = result.next
```

```
8 9 9 9 0 0 0 1
```

In [ ]: