# **086.** Partition List

## **086 Partition List**

• Two Pointers + Linked List

#### **Description**

Given a linked list and a value x, partition it such that all nodes less than x come before nodes greater than or equal to x.

You should preserve the original relative order of the nodes in each of the two partitions.

For example,

```
Given 1->4->3->2->5->2 and x=3, return 1->2->2->4->3->5.
```

### 1. Thought line

#### 2. Two Pointers + Linked List

```
class Solution {
ListNode* partition(ListNode* head, int x) {
    ListNode* dummyHeadFirstHalf = new ListNode(0);
    ListNode* dummyHeadSecondHalf = new ListNode(0);
    ListNode* firstHalfElement = dummyHeadFirstHalf;
    ListNode* lastHalfElement = dummyHeadSecondHalf;
    while(head!=nullptr){
        ListNode* headNext = head->next;
        if(head->val<x){</pre>
             firstHalfElement->next = new ListNode(head->val);
             firstHalfElement = firstHalfElement->next;
             lastHalfElement->next = new ListNode(head->val);
             lastHalfElement = lastHalfElement->next;
        head = headNext;
     firstHalfElement->next = dummyHeadSecondHalf->next;
     return dummyHeadFirstHalf->next;
```