LEETCODE SOLUTIONS - YOGESH MUNEES

23. Merge k Sorted Lists

Hard 18.1K 646

Companies

You are given an array of `k` linked-lists `lists`, each linked-list is sorted in ascending order.

Merge all the linked-lists into one sorted linked-list and return it.

Example 1:

```
Input: lists = [[1,4,5],[1,3,4],[2,6]]
Output: [1,1,2,3,4,4,5,6]
Explanation: The linked-lists are:
[
  1->4->5,
  1->3->4,
  2->6
]
merging them into one sorted list:
1->1->2->3->4->4->5->6
```

Solution:

```c
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     struct ListNode *next;
 * };
 */
struct ListNode* merge(struct ListNode* list1,struct ListNode* list2){
    if(list1==NULL)
        return list2;
    if(list2==NULL)
        return list1;
    struct ListNode* node = NULL;
    if(list1->val<list2->val){
        node = list1;
        node->next = merge(list1->next,list2);
    } else {
        node = list2;
        node->next = merge(list1,list2->next);
    }
    return node;
}
```

```
struct ListNode* mergeKLists(struct ListNode** lists, int listsSize){
    struct ListNode* result = NULL;
    for(int i=0;i<listsSize;i++){
        result = merge(result,lists[i]);
    }
    return result;
}
```