Exercise-42 Merge k Sorted Lists

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.

Program -

```
class ListNode:
    def __init__(self, val=0, next=None):
        self.val = val
        self.next = next
def mergeKLists(lists):
    if not lists:
        return None
    nodes = []
    for lst in lists:
        while lst:
            nodes.append(lst.val)
            lst = lst.next
    nodes.sort()
    dummy = ListNode()
    current = dummy
    for val in nodes:
        current.next = ListNode(val)
        current = current.next
    return dummy.next
lists = [
    ListNode(1, ListNode(4, ListNode(5))),
    ListNode(1, ListNode(3, ListNode(4))),
    ListNode(2, ListNode(6))
]
result = mergeKLists(lists)
while result:
    print(result.val, end=" ")
```

```
    result = result.next
```

output

```
======= RESTART: C
1 1 2 3 4 4 5 6
```

Time complexity -O(N log k), where k is the number of input lists.