

23. Merge k Sorted Lists

Difficulty : Hard

<https://leetcode.com/problems/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.

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`

Example 2:

Input: `lists = []`

Output: `[]`

Example 3:

Input: `lists = [[]]`

Output: `[]`

Constraints:

- $k == \text{lists.length}$
- $0 \leq k \leq 10^4$
- $0 \leq \text{lists}[i].\text{length} \leq 500$
- $-10^4 \leq \text{lists}[i][j] \leq 10^4$
- `lists[i]` is sorted in **ascending order**.
- The sum of `lists[i].length` will not exceed 10^4 .