

# DS & Algorithms Problems

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## Merge $k$ Sorted Lists

- **Problem:** Given a set of  $k$  linked lists, each which are individually sorted in ascending order, merge all  $k$  lists into one sorted list.
- **Solution Idea:** The basic approach is to essentially just perform the *merge* step of merge-sort. That is, if we are given a set of already sorted lists, we can merge them all into one sorted lists by repeatedly popping the smallest element from the remaining, non-empty lists and appending it to the output list.
- **Takeaways:** The essence of the solution is very straightforward as long as you know and understand the ideas behind mergesort i.e. knowing the core idea that you can merge a set of already sorted lists by incrementally choosing the smallest element from each.