

## Top-20 Training Program (SortedSet, SortedMap, Priority Queue)

Apply the solution building strategies discussed in class to solve following problems.

#### **Group1: Basic problems**

**Sort Characters by Frequency:** <a href="https://leetcode.com/problems/sort-characters-by-frequency/description/">https://leetcode.com/problems/sort-characters-by-frequency/description/</a>

**K-Empty Slots:** <a href="https://leetcode.com/problems/k-empty-slots/">https://leetcode.com/problems/k-empty-slots/</a>

Contains Duplicate-III: https://leetcode.com/problems/contains-duplicate-

iii/description/

#### **Group2: Interval based problems**

**MyCalender-I:** <a href="https://leetcode.com/problems/my-calendar-ii/description/">https://leetcode.com/problems/my-calendar-ii/description/</a> **MyCalender-II:** <a href="https://leetcode.com/problems/my-calendar-ii/description/">https://leetcode.com/problems/my-calendar-ii/description/</a>

Find Right Interval: <a href="https://leetcode.com/problems/find-right-interval/description/">https://leetcode.com/problems/find-right-interval/description/</a>

Range Module: <a href="https://leetcode.com/problems/range-module/description/">https://leetcode.com/problems/range-module/description/</a>

DataStream as Disjoint-intervals: https://leetcode.com/problems/data-stream-as-

disjoint-intervals/description/

#### **Group3: PriorityQueue based problems**

Merge k-sorted lists: <a href="https://leetcode.com/problems/merge-k-sorted-lists/description/">https://leetcode.com/problems/merge-k-sorted-lists/description/</a>
<a href="https://leetcode.com/problems/kth-largest-element-in-an-array/description/">https://leetcode.com/problems/kth-largest-element-in-an-array/description/</a>

**Top-k** Frequent elements/description/

Elements: <a href="https://leetcode.com/problems/top-k-frequent-planes/">https://leetcode.com/problems/top-k-frequent-planes/</a>

**K-pairs with Smallest Sums:** <a href="https://leetcode.com/problems/find-k-pairs-with-smallest-sums/description/">https://leetcode.com/problems/find-k-pairs-with-smallest-sums/description/</a>

Kth Smallest Element in Sortedmatrix: <a href="https://leetcode.com/problems/kth-smallest-element-in-a-sorted-matrix/description/">https://leetcode.com/problems/kth-smallest-element-in-a-sorted-matrix/description/</a>

Sliding Window Maximum: <a href="https://leetcode.com/problems/sliding-window-maximum/description/">https://leetcode.com/problems/sliding-window-maximum/description/</a>

Find Median in DataStream: <a href="https://leetcode.com/problems/find-median-from-data-stream/description/">https://leetcode.com/problems/find-median-from-data-stream/description/</a>

**ArrayToHeap:** Find an efficient algorithm to conert an array to min heap in linear time. **MergeHeaps**: Find an efficient algorithm to merge two minheaps into single heap.



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### **Group4: Competition Problems**

**Password Search:** 

https://uva.onlinejudge.org/index.php?option=com\_onlinejudge&Itemid=8&page=show\_problem&problem=843

Running Median: <a href="http://poj.org/problem?id=3784">http://poj.org/problem?id=3784</a>

Average: <a href="http://poj.org/problem?id=2833">http://poj.org/problem?id=2833</a>

Sliding window: http://poj.org/problem?id=2823

