Smart Coding & Interview Series
Top-20 Basic Program
(SortedMap & Sorted MultiMap Applications)

First, understand the solution building strategies and coding for the problems in LIVE/VIDEO session and then you apply those strategies discussed in LIVE/VIDEO session to solve the following problems. Use your favourite language(C/C++/Java/C#/Python/Scala) for coding.

1) Sort Characters by Frequency: Given a string, sort it in decreasing order based on the frequency of characters.

Example:

Input: "tree"

Output:"eert"

Source: *https://leetcode.com/problems/sort-characters-by-frequency/description/*

2) Time Based Key-Value Store: Create a timebased key-value store class `TimeMap`, that supports two operations.

1. set(string key, string value, int timestamp): Stores the key and value, along with the given timestamp.
2. get(string key, int timestamp): Returns a value such that set(key, value, timestamp_prev) was called previously, with timestamp_prev <= timestamp. If there are multiple such values, it returns the one with the largest timestamp_prev. If there are no values, it returns the empty string (`""`).

Example:

Input:

inputs = ["TimeMap","set","get","get","set","get","get"],

inputs = [[],["foo","bar",1],["foo",1],["foo",3],["foo","bar2",4],["foo",4],["foo",5]]

Output: [null,null,"bar","bar",null,"bar2","bar2"]

Source: https://leetcode.com/problems/time-based-key-value-store/

3) Divide Array in Sets of K Consecutive Numbers: Given an array of integers *nums* and a positive integer k, find whether it's possible to divide this array into sets of k consecutive numbers. Return True if it is possible otherwise return False.

Example:

Input: nums = [1,2,3,3,4,4,5,6], k = 4

Output: true

Explanation: Array can be divided into [1,2,3,4] and [3,4,5,6].

Source: *https://leetcode.com/problems/divide-array-in-sets-of-k-consecutive-numbers/*