10 Golden Rules for Solving Coding Interview

- Rule 1: If we are dealing with Top/ Max/ Min/ Closest “k” elements among “N” elements we will be using Heaps.
- Rule 2: If the given input is sorted array or is a list, we will either using binary search or two pointer strategy.
- Rule 3: If we need to try all combinations or permutations of input, we can either use backtracking or breadth first search.
- Rule 4: Most of the questions related to trees and graphs can be solved either through breadth first search or depth first search.
- Rule5: Every recursive solution can be turned into iterative solution by using stacks.
- Rule 6: For problem involving arrays, if there exists a solution in O(N^2) time and O(1) Space there must exist 2 other solutions.
  1. Using HashMap or set for O(n) time and O(n) space.
  2. Using sorting for O(nlogn) time and O(1) space.
- If problem is asking for optimization(min,max) we will be using dynamic programming.
- If we need to find a common substring among a set of strings, we will be using a HashMap or a Tree.
- If we need to search / manipulate a bunch of strings, trees will be the best data structure.
- If problem is related to linked list and we can’t use extra space, then we use that fast and slow pointers approach.