DSA Master Plan – Topic, Patterns, Problems, and Time

# Arrays

## Basic Array Manipulation (⏱ 1.5 days)

* • Reverse an Array
* • Find the Minimum and Maximum
* • Check if Array is Sorted
* • Left/Right Rotate Array
* • Move Zeros to End (LC #283)
* • Remove Duplicates from Sorted Array (LC #26)
* • Find Second Largest Element
* • Sort Colors (LC #75)
* • Kadane’s Algorithm (LC #53)

## Two Pointers (⏱ 2 days)

* • Two Sum II (LC #167)
* • Remove Duplicates II
* • Container With Most Water (LC #11)
* • Trapping Rain Water (LC #42)
* • Valid Palindrome (LC #125)
* • 3Sum (LC #15)
* • Sort Squares of Array (LC #977)
* • Longest Substring Without Repeat (LC #3)

## Sliding Window (⏱ 2 days)

* • Maximum Sum Subarray of Size K
* • Minimum Size Subarray Sum (LC #209)
* • Longest Substring Without Repeat (LC #3)
* • Longest Repeating Character Replacement (LC #424)
* • Permutation in String (LC #567)
* • Max Vowels in Substring (LC #1456)
* • Longest Subarray with Ones After K Flips (LC #1004)
* • Max Consecutive Ones III (LC #1052)

## Prefix Sum (⏱ 2 days)

* • Prefix Sum Basics
* • Subarray Sum Equals K (LC #560)
* • Find Pivot Index (LC #724)
* • Range Sum Query (LC #303)
* • Split Array Largest Sum
* • Minimum Value to Positive Sum (LC #1413)
* • Count Nice Subarrays (LC #1248)
* • Product Except Self (LC #238)

## Binary Search on Arrays (⏱ 2.5 days)

* • Binary Search (LC #704)
* • Search in Rotated Sorted Array (LC #33)
* • First and Last Position (LC #34)
* • Min in Rotated Sorted Array (LC #153)
* • Peak Element (LC #162)
* • Koko Eating Bananas (LC #875)
* • Capacity to Ship Packages (LC #1011)
* • Median of Two Sorted Arrays (LC #4)

## Greedy + Arrays (⏱ 2.5 days)

* • Jump Game I (LC #55)
* • Jump Game II (LC #45)
* • Gas Station (LC #134)
* • Candy Distribution (LC #135)
* • Merge Intervals (LC #56)
* • Non-overlapping Intervals
* • Burst Balloons (LC #452)
* • Max Subarray After One Operation (LC #1749)

## HashMap + Array Combo (⏱ 2.5 days)

* • Two Sum (LC #1)
* • Group Anagrams (LC #49)
* • Top K Frequent Elements (LC #347)
* • Longest Consecutive Sequence (LC #128)
* • Subarray Sum Equals K (LC #560)
* • Contains Duplicate (LC #217)
* • Find All Anagrams (LC #438)
* • Longest Harmonious Subsequence (LC #594)

## Matrix (2D Arrays) (⏱ 1.5 days)

* • Rotate Image (LC #48)
* • Spiral Matrix (LC #54)
* • Search 2D Matrix (LC #240)
* • Set Matrix Zeroes (LC #73)
* • Word Search (LC #79)
* • Flood Fill (LC #733)
* • Island Counting (LC #200)
* • Pacific Atlantic Water Flow (LC #417)

# Strings

## Two Pointers on Strings (⏱ 1.5 days)

* • Valid Palindrome (LC #125)
* • Reverse String (LC #344)
* • Reverse Words in a String III (LC #557)
* • Implement strStr() (LC #28)
* • Longest Substring Without Repeat (LC #3)
* • Longest Repeating Character Replacement (LC #424)
* • String Array Equivalence (LC #1662)
* • Palindrome Pairs (LC #336)

## Sliding Window on Strings (⏱ 2 days)

* • Minimum Window Substring (LC #76)
* • Permutation in String (LC #567)
* • Find All Anagrams (LC #438)
* • Longest Substring K Distinct (LC #340)
* • Max Consecutive Ones III (LC #1004)
* • Longest Repeating Char Replacement (LC #424)
* • Replace ? to Make Palindrome
* • Longest Substring Without Repeat (LC #3)

## Hashing on Strings (⏱ 2 days)

* • Group Anagrams (LC #49)
* • Valid Anagram (LC #242)
* • First Unique Character (LC #387)
* • Isomorphic Strings (LC #205)
* • Longest Palindrome from Chars (LC #409)
* • Check Isomorphic Again (LC #205)
* • Find the Difference (LC #389)
* • Custom Sort String (LC #791)

## Palindrome Logic (⏱ 1.5 days)

* • Valid Palindrome II (LC #680)
* • Longest Palindromic Substring (LC #5)
* • Count Palindromic Substrings (LC #647)
* • Palindrome Partitioning (LC #131)
* • Palindrome Pairs (LC #336)
* • Min Insertions for Palindrome (LC #1312)
* • Longest Palindromic Subsequence (LC #516)
* • Remove Palindromic Subsequences (LC #1332)

## Trie (Prefix Tree) for Strings (⏱ 2 days)

* • Implement Trie (LC #208)
* • Magic Dictionary (LC #676)
* • Word Dictionary (Wildcards) (LC #211)
* • Longest Word in Dictionary (LC #720)
* • Replace Words (LC #648)
* • Word Search II (LC #212)
* • Palindrome Pairs (Trie version) (LC #336)