

## pointer

- 1) Rotate Array, Reverse Words in a String
- 2) Evaluate Reverse Polish Notation (Stack)
- 3) Isomorphic Strings
- 4) Word Ladder (BFS), Word Ladder II (BFS)
- 5) Median of Two Sorted Arrays
- 5) Kth Largest Element in an Array
- 6) Wildcard Matching, Regular Expression Matching

- 7) Merge Intervals, Insert Interval
- 9) Two Sum, Two Sum II, Two Sum III, 3Sum, 4Sum
- 10) 3Sum Closest

- 11) String to Integer
- 12) Merge Sorted Array
- 13) Valid Parentheses
- 13) Longest Valid Parentheses
- 14) Implement strStr()
- 15) Minimum Size Subarray Sum

- 16) Search Insert Position

- 17) Longest Consecutive Sequence

- 18) Valid Palindrome
- 19) ZigZag Conversion
- 20) Add Binary
- 21) Length of Last Word
- 22) Triangle
- 24) Contains Duplicate: I, II, III
- 25) Remove Duplicates from Sorted Array: I, II, Remove Element, Move Zeroes
- 27) Longest Substring Without Repeating Characters
- 28) Longest Substring that contains 2 unique characters [Google]

- 28) Substring with Concatenation of All Words

- 29) Minimum Window Substring

- 31) Find Minimum in Rotated Sorted Array: I, II
- 32) Search in Rotated Array: I, II
- 33) Min Stack

## Matrix

- 1) Set Matrix Zeroes
- 2) Spiral Matrix
- 2) Spiral Matrix II
- 3) Search a 2D Matrix
- 3) Search a 2D Matrix II
- 4) Rotate Image [Palantir]
- 5) Valid Sudoku

- 6) Minimum Path Sum (DP) [Google]

- 7) Unique Paths (DP) [Google]
- 7) Unique Paths II (DP)

- 8) Number of Islands (DFS/BFS), Number of Islands II (Disjoint Set), Number of Connected Components in an Undirected Graph

- 9) Surrounded Regions (BFS)
- 10) Maximal Rectangle
- 10) Maximal Square
- 11) Word Search (DFS)
- 11) Word Search II

- 13) Range Sum Query 2D – Immutable

- 14) Longest Increasing Path in a Matrix (DFS)

- 15) Shortest Distance from All Buildings
- 16) Game of Life
- 17) Paint House, Paint House II
- 18) Sudoku Solver (DFS)
- 19) Walls and Gates (DFS/BFS)
- 20) Tic-Tac-Toe

- 21) Best Meeting Point

## Linked List

- 0) Implement a Stack Using an Array

- 1) Add Two Numbers
- 2) Reorder List
- 3) Linked List Cycle

34) Majority Element: I, II  
35) Bulls and Cows  
36) Largest Rectangle in Histogram

37) Longest Common Prefix [Google]

38) Largest Number  
39) Simplify Path  
40) Compare Version Numbers  
41) Gas Station  
44) Pascal's Triangle: I, II  
45) Container With Most Water

45) Candy [Google]

45) Trapping Rain Water  
46) Count and Say  
47) Search for a Range  
48) Basic Calculator, Basic Calculator II

49) Group Anagrams  
50) Shortest Palindrome  
51) Rectangle Area  
52) Summary Ranges  
53) Increasing Triplet Subsequence  
54) Get Target Using Number List And Arithmetic Operations

55) Reverse Vowels of a String  
56) Flip Game, Flip Game II  
57) Missing Number, Find the duplicate number, First Missing Positive

58) Valid Anagram, Group Shifted Strings  
59) Top K Frequent Elements  
60) Find Peak Element  
61) Word Pattern, Word Pattern II  
62) H-Index , H-Index II

63) Palindrome Pairs

64) One Edit Distance

65) Scramble String

66) First Bad Version  
67) Integer to English Words

4) Copy List with Random Pointer  
5) Merge Two Sorted Lists  
6) Odd Even Linked List

7) Remove Duplicates from Sorted List

7) Remove Duplicates from Sorted List II  
8) Partition List  
9) LRU Cache  
10) Intersection of Two Linked Lists  
11) Remove Linked List Elements  
12) Swap Nodes in Pairs

13) Reverse Linked List, Reverse Linked List II, Print Linked List in Reversed Order  
14) Remove Nth Node From End of List (Fast-Slow Pointers)  
15) Implement Stack using Queues  
15) Implement Queue using Stacks  
16) Palindrome Linked List

17) Implement a Queue using an Array  
18) Delete Node in a Linked List  
19) Reverse Nodes in k-Group

### **Tree, Heap and Trie**

1) Binary Tree  
Traversal: Preorder, Inorder, Postorder, Level Order, Level Order II, Vertical Order  
2) Invert Binary Tree

3) Kth Smallest Element in a BST  
4) Binary Tree Longest Consecutive Sequence  
5) Validate Binary Search Tree  
6) Flatten Binary Tree to Linked List  
7) Path Sum (DFS or BFS)  
7) Path Sum II (DFS)  
8) Construct Binary Tree from Inorder and Postorder Traversal  
8) Construct Binary Tree from Preorder and Inorder Traversal  
9) Convert Sorted Array to Binary Search Tree [Google]  
10) Convert Sorted List to Binary Search Tree [Google]  
11) Minimum Depth of Binary Tree

- 68) Text Justification
- 69) Remove Invalid Parentheses
- 70) Intersection of Two Arrays, Intersection of Two Arrays II
- 71) Sliding Window Maximum, Moving Average from Data Stream
- 72) Guess Number Higher or Lower

#### **4.2 Heap**

- 1) Merge k sorted arrays [Google]
- 2) Merge k Sorted Lists \*
- 3) Find Median from Data Stream
- 4) Meeting Rooms II, Meeting Rooms
- 5) Range Addition

#### **4.3 Trie**

- 1) Implement Trie (Prefix Tree)
- 2) Add and Search Word - Data structure design (DFS)

#### **4.4 Segment Tree**

- 1) Range Sum Query - Mutable
- 2) The Skyline Problem

#### **Graph**

- 1) Clone Graph
- 2) Course Schedule , Course Schedule II , Minimum Height Trees
- 3) Reconstruct Itinerary
- 4) Graph Valid Tree

#### **Sorting**

- 1) Mergesort
- 2) Quicksort
- 3) InsertionSort.

- 12) Binary Tree Maximum Path Sum \*
- 13) Balanced Binary Tree
- 14) Symmetric Tree
- 15) Binary Search Tree Iterator
- 16) Binary Tree Right Side View
- 17) Lowest Common Ancestor of a Binary Search Tree
- 18) Lowest Common Ancestor of a Binary Tree
- 19) Verify Preorder Serialization of a Binary Tree
- 20) Populating Next Right Pointers in Each Node
- 21) Populating Next Right Pointers in Each Node II
- 21) Unique Binary Search Trees (DP)
- 21) Unique Binary Search Trees II (DFS)
- 22) Sum Root to Leaf Numbers (DFS)
- 23) Count Complete Tree Nodes
- 24) Closest Binary Search Tree Value
- 25) Binary Tree Paths
- 26) Maximum Depth of Binary Tree
- 27 Recover Binary Search Tree
- 28) Same Tree
- 29) Serialize and Deserialize Binary Tree
- 30) Inorder Successor in BST
- 31) Find Leaves of Binary Tree
- 32) Largest BST Subtree

#### **Dynamic Programming**

- 1) Edit Distance
- 1) Distinct Subsequences Total
- 2) Longest Palindromic Substring
- 3) Word Break
- 3) Word Break II
- 4) Maximum Subarray
- 4) Maximum Product Subarray
- 5) Palindrome Partitioning
- 5) Palindrome Partitioning II
- 6) House Robber [Google]
- 6) House Robber II

- 4) Maximum Gap (Bucket Sort)
- 5) Sort Colors (Counting Sort)

### **Bit Manipulation**

- 1) Single Number
- 1) Single Number II
- 2) Maximum Binary Gap
- 3) Number of 1 Bits
- 4) Reverse Bits
- 5) Repeated DNA Sequences
- 6) Bitwise AND of Numbers Range
- 7) Sum of Two Integers
- 8) Counting Bits
- 9) Maximum Product of Word Lengths
- 10) Gray Code

- 6) House Robber III
- 7) Jump Game
- 7) Jump Game II
- 8) Best Time to Buy and Sell Stock
- 8) Best Time to Buy and Sell Stock II
- 8) Best Time to Buy and Sell Stock III
- 8) Best Time to Buy and Sell Stock IV
- 9) Dungeon Game
- 10) Minimum Path Sum
- 11) Unique Paths
- 12) Decode Ways
- 13) Longest Common Subsequence
- 14) Longest Common Substring
- 15) Longest Increasing Subsequence
- 16) Coin Change
- 17) Perfect Squares

### **Combinations and Permutations**

- 1) Permutations
- 2) Permutations II
- 3) Permutation Sequence
- 4) Generate Parentheses
- 5) Combination Sum (DFS), II (DFS), III (DFS), IV (DP)
- 6) Combinations (DFS)
- 7) Letter Combinations of a Phone Number (DFS)
- 8) Restore IP Addresses
- 9) Factor Combinations (DFS)

### **HashMap**

- 1) Shortest Word Distance II

#### **Additional Problems:**

- 1) Self Crossing
- 2) Patching Array
- 3) Nim Game
- 4) Bulb Switcher
- 5) Pain Fence
- 6) Nested List Weight Sum

### **Math**

- 1) Reverse Integer
- 2) Palindrome Number
- 3) Pow(x,n), Power of Two, Power of Three, Power of Four
- 4) Subsets
- 5) Subsets II
- 6) Fraction to Recurring Decimal [Google]
- 7) Excel Sheet Column Number
- 8) Excel Sheet Column Title
- 9) Factorial Trailing Zeroes
- 10) Happy Number
- 11) Count Primes
- 12) Plus One
- 13) Divide Two Integers
- 14) Multiply Strings
- 15) Max Points on a Line
- 16) Product of Array Except Self
- 17) Integer Break
- 18) Add Digits
- 21) Ugly Number, 9Ugly Number II, Super Ugly Number
- , Find K Pairs with Smallest Sums