**Frequently Asked Problems(Topic Wise) for**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7013479912497901568)**companies**

👉Arrays -   
1. Two Sum  
2. Container With Most Water  
3. 3Sum  
4. Search in Rotated Sorted Array  
5. Maximum Subarray  
6. Best Time to Buy and Sell Stock  
7. Maximum Product Subarray  
8. Find Minimum in Rotated Sorted Array  
9. Contains Duplicate  
10. Product of Array Except Self  
  
👉String -   
1. Longest Substring Without Repeating Characters  
2. Longest Palindromic Substring  
3. Valid Parentheses  
4. Group Anagrams  
5. Minimum Window Substring  
6. Valid Palindrome  
7. Valid Anagram  
8. Longest Repeating Character Replacement  
9. Palindromic Substrings  
  
👉Matrix -   
1. Rotate Image  
2. Spiral Matrix  
3. Set Matrix Zeroes  
4. Word Search  
  
👉Bit Manipulation -  
1. Reverse Bits  
2. Number of 1 Bits  
3. Missing Number  
4. Counting Bits  
5. Sum of Two Integers  
  
👉Linked List -   
1. Remove Nth Node From End of List  
2. Merge Two Sorted Lists  
3. Merge k Sorted Lists  
4. Linked List Cycle  
5. Reorder List  
6. Reverse Linked List  
  
👉Dynamic Programming -   
1. Jump Game  
2. Unique Paths  
3. Climbing Stairs  
4. Decode Ways  
5. Word Break  
6. House Robber  
7. House Robber II  
8. Longest Increasing Subsequence  
9. Coin Change  
10. Combination Sum IV  
11. Ways to Split Array Into Three Subarrays  
  
👉Heap -   
1. Merge k Sorted Lists  
2. Find Median from Data Stream  
3. Top K Frequent Elements  
  
👉Graphs -   
1. Longest Consecutive Sequence  
2. Clone Graph  
3. Number of Islands  
4. Course Schedule  
5. Pacific Atlantic Water Flow  
  
👉Tree -   
1. Validate Binary Search Tree  
2. Same Tree  
3. Binary Tree Level Order Traversal  
4. Maximum Depth of Binary Tree  
5. Construct Binary Tree from Preorder and Inorder Traversal  
6. Binary Tree Maximum Path Sum  
7. Implement Trie (Prefix Tree)  
8. Word Search II  
9. Invert Binary Tree  
10. Kth Smallest Element in a BST  
11. Lowest Common Ancestor of a Binary Search Tree  
12. Serialize and Deserialize Binary Tree  
13. Subtree of Another Tree

**40 Must do problems(Hard) to get into**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7013117507465031680)**companies!**

1 Sudoku Solver  
2. Trapping Rain Water  
3. Minimum Window Substring  
4. Distinct Subsequences  
5. Best Time to Buy and Sell Stock III  
6. Palindrome Partitioning II  
7. Dungeon Game  
8. Word Search II  
9. Basic Calculator  
10. Expression Add Operators  
11. Patching Array  
12. Arithmetic Slices II - Subsequence  
13. Remove Boxes  
14. Erect the Fence  
15. Non-negative Integers without Consecutive Ones  
16. Making A Large Island  
17. Sum of Distances in Tree  
18. Reachable Nodes In Subdivided Graph  
19. Orderly Queue  
20. Minimum Cost to Merge Stones  
21. Maximum Profit in Job Scheduling  
22. Merge k Sorted Lists  
23. Longest Valid Parentheses  
24. Wildcard Matching  
25. Permutation Sequence  
26. Valid Number  
27. Edit Distance  
28. Maximal Rectangle  
29. Scramble String  
30. Distinct Subsequences  
31. Best Time to Buy and Sell Stock III  
32. Binary Tree Maximum Path Sum  
33. Word Break II  
34. Maximum Gap  
35. Shortest Palindrome  
36. Longest Increasing Path in a Matrix  
37. Super Egg Drop  
38. Number of Submatrices That Sum to Target  
39. Minimum Number of Taps to Open to Water a Garden  
40. Number of Ways to Paint N × 3 Grid

**60 Must do problems(Medium) to get into**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7012755487997739008)**companies!**

1.Longest Substring Without Repeating Characters  
2. Longest Palindromic Substring  
3. Container With Most Water  
4. Letter Combinations of a Phone Number  
5. Generate Parentheses  
6. Swap Nodes in Pairs  
7. Divide Two Integers  
8. Next Permutation  
9. Search in Rotated Sorted Array  
10. Permutations  
11. Rotate Image  
12. Group Anagrams  
13. Merge Intervals  
14. Sort Colors  
15. Binary Tree Inorder Traversal  
16. Binary Tree Level Order Traversal  
17. Construct Binary Tree from Inorder and Postorder Traversal  
18. Populating Next Right Pointers in Each Node II  
19. Single Number II  
20. Copy List with Random Pointer  
21. Linked List Cycle II  
22. LRU Cache  
23. Insertion Sort List  
24. Sort List  
25. Reverse Words in a String  
26. Fraction to Recurring Decimal  
27. Largest Number  
28. Number of Islands  
29. Course Schedule  
30. Implement Trie (Prefix Tree)  
31. Course Schedule II  
32. House Robber II  
33. Kth Largest Element in an Array  
34. Combination Sum III  
35. Kth Smallest Element in a BST  
36. Lowest Common Ancestor of a Binary Tree  
37. Find the Celebrity  
38. Game of Life  
39. Longest Increasing Subsequence  
40. Range Sum Query 2D - Immutable  
41. Odd Even Linked List  
42. Counting Bits  
43. Top K Frequent Elements  
44. Design Twitter  
45. Combination Sum IV  
46. Pacific Atlantic Water Flow  
47. Maximum XOR of Two Numbers in an Array  
48. Longest Repeating Character Replacement  
49. Sequence Reconstruction  
50. 4Sum II  
51. Longest Palindromic Subsequence  
52. Contiguous Array  
53. Minesweeper  
54. Find K Closest Elements  
55. Partition Labels  
56. Reorganize String  
57. Sum of Subarray Minimums  
58. Remove Zero Sum Consecutive Nodes from Linked List  
59. Longest Continuous Subarray With Absolute Diff Less Than or Equal to Limit

**50 Frequently asked Hash Table and map problems in**[**#FAANG**](https://www.linkedin.com/feed/hashtag/?keywords=faang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7012031357442756608)

1 Two Sum  
2. Longest Substring Without Repeating Characters  
3. 4Sum  
4. Group Anagrams  
5. Single Number  
6. Copy List with Random Pointer  
7. Repeated DNA Sequences  
8. Happy Number  
9. Isomorphic Strings  
10. Contains Duplicate  
11. Contains Duplicate II  
12. Valid Anagram  
13. H-Index  
14. Word Pattern  
15. Bulls and Cows  
16. Top K Frequent Elements  
17. Intersection of Two Arrays  
18. Intersection of Two Arrays II  
19. First Unique Character in a String  
20. Find the Difference  
21. Longest Palindrome  
22. Find All Anagrams in a String  
23. Number of Boomerangs  
24. Sort Characters By Frequency  
25. 4Sum II  
26. Most Frequent Subtree Sum  
27. Contiguous Array  
28. Brick Wall  
29. Subarray Sum Equals K  
30. Distribute Candies  
31. Longest Harmonious Subsequence  
32. Set Mismatch  
33. Jewels and Stones  
34. Uncommon Words from Two Sentences  
35. Prison Cells After N Days  
36. N-Repeated Element in Size 2N Array  
37. Powerful Integers  
38. Find Common Characters  
39. Find Words That Can Be Formed by Characters  
40. Maximum Number of Balloons  
41. Unique Number of Occurrences  
42. How Many Numbers Are Smaller Than the Current Number  
43. Number of Good Pairs  
44. Kth Missing Positive Number  
45. Sort Array by Increasing Frequency  
46. Max Number of K-Sum Pairs

**50 Frequently Asked LinkedList problems for 7Lakh/month Package!**

1. Add Last In Linked List   
2. Display a Linked List  
3. Remove First In Linked List  
4. Get Value in Linked List  
5. Add First in Linked List  
6. Add At Index In Linked List  
7. Remove Last In Linked List  
8. Remove At Index in Linked List  
9. Reverse A Linked List Data Iterative  
10. Reverse Linked List Pointer Iterative  
11. Linked List to Stack Adapter  
12. Linked List To Queue Adapter  
13. Kth Node From End Of Linked List  
14. Mid of Linked List  
15. Merge Two Sorted Linked List  
16. Merge Sort A Linked List  
17. Remove Duplicates in Sorted Linked List  
18. Odd Even Linked List  
19. K Reverse In Linked List  
20. Display Reverse Recursive  
21. Reverse Linked List Pointer Recursive  
22. Is Linked List A Palindrome  
23. Fold A Linked List  
24. Add Two Linked Lists   
25. Intersection Point Of Linked Lists   
26. Mid( with Proof)  
27. Pointer Reverse Of LL (2 Method but Inplace)  
28. Check Palindrome of LL  
29. Fold of LL Inplace  
30. UnFold of LL Inplace  
31. Merge Of Two Sorted LL Inplace  
32. Merge Sort Inplace  
33. Merge K Sorted LL inplace with Proof (all 3 variations with reasoning why PQ will perform Worst)  
34. Remove Nth Node From Last with Proof  
35. Segregate Even and Odd Of LL inplace  
36. Reverse Nodes Of LL in K groups inplace  
37. Reverse In Range inplace  
38. Copy Random Pointers inplace (2 Methods)  
39. Add Two LL without using extra space  
40. Subtract Two LL without using extra space  
41. Multiply Two LL without using extra space  
42. IsCycle Present in LL with proof  
43. Remove Duplicates - I  
44. Remove Duplicates - II  
45. Partition list  
46. Convert Sorted List to BST  
47. Swap Nodes Of LL  
48. Split LinkedList in Parts  
49. Design Phone Directory  
50. Linked List that is Sorted Alternatingly

**70+ problems to master Trees to get into**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7008049159534448640)**Companies!!**

1 Unique Binary Search Trees II  
2. Unique Binary Search Trees  
3. Validate Binary Search Tree  
4. Recover Binary Search Tree  
5. Same Tree  
6. Symmetric Tree  
7. Binary Tree Level Order Traversal  
8. Binary Tree Zigzag Level Order Traversal  
9. Maximum Depth of Binary Tree  
10. Binary Tree Level Order Traversal II  
11. Convert Sorted Array to Binary Search Tree  
12. Convert Sorted List to Binary Search Tree  
13. Minimum Depth of Binary Tree  
14. Binary Tree Right Side View  
15. Kth Smallest Element in a BST  
16. Lowest Common Ancestor of a Binary Search Tree  
17. Lowest Common Ancestor of a Binary Tree  
18. Binary Tree Paths  
19. Serialize and Deserialize Binary Tree  
20. Verify Preorder Serialization of a Binary Tree  
21. Sum of Left Leaves  
22. Path Sum III  
23. Serialize and Deserialize BST  
24. Delete Node in a BST  
25. Find Largest Value in Each Tree Row  
26. Minimum Absolute Difference in BST  
27. Convert BST to Greater Tree  
28. Add One Row to Tree  
29. Average of Levels in Binary Tree  
30. Maximum Width of Binary Tree  
31. Trim a Binary Search Tree  
32. N-ary Tree Level Order Traversal  
33. Maximum Depth of N-ary Tree  
34. Search in a Binary Search Tree  
35. Kth Largest Element in a Stream  
36. Minimum Distance Between BST Nodes  
37. Sum of Distances in Tree  
38. All Nodes Distance K in Binary Tree  
39. Smallest Subtree with all the Deepest Nodes  
40. Leaf-Similar Trees  
41. Construct Binary Tree from Preorder and Postorder Traversal  
42. All Possible Full Binary Trees  
43. Increasing Order Search Tree  
44. Range Sum of BST  
45. Flip Equivalent Binary Trees  
46. Check Completeness of a Binary Tree  
47. Univalued Binary Tree  
48. Flip Binary Tree To Match Preorder Traversal  
49. Smallest String Starting From Leaf  
50. Cousins in Binary Tree  
51. Construct Binary Search Tree from Preorder Traversal  
52. Sum of Root To Leaf Binary Numbers  
53. Maximum Difference Between Node and Ancestor  
54. Recover a Tree From Preorder Traversal  
55. Binary Search Tree to Greater Sum Tree  
56. Maximum Level Sum of a Binary Tree  
57. Insufficient Nodes in Root to Leaf Paths  
58. Path In Zigzag Labelled Binary Tree  
59. Delete Nodes And Return Forest  
60. Lowest Common Ancestor of Deepest Leaves  
61. Sum of Nodes with Even-Valued Grandparent  
62. Deepest Leaves Sum  
63. Validate Binary Tree Nodes  
64. Kth Ancestor of a Tree Node  
65. All Elements in Two Binary Search Trees  
66. Delete Leaves With a Given Value  
67. Frog Position After T Seconds  
68. Count Good Nodes in Binary Tree  
69. Pseudo-Palindromic Paths in a Binary Tree  
70. Number of Nodes in the Sub-Tree With the Same Label

1. Binary Search  
   2. Search in Rotated Sorted Array  
   3. Search in Rotated Sorted Array II  
   4. Median of Two Sorted Arrays  
   5. Find First and Last Position of Element in Sorted Array  
   6. Search a 2D Matrix  
   7. Search a 2D Matrix II  
   8. Search Insert Position  
   9. Kth Smallest Element in a Sorted Matrix  
   10. Find Peak Element  
   11. Split Array Largest Sum  
   12. Find Minimum in Rotated Sorted Array  
   13. Find Minimum in Rotated Sorted Array II  
   14. Wood Cut  
   15. Sqrt(x)  
   16. Guess Number Higher or Lower  
   17. First Bad Version  
   18. Count of Smaller Numbers After Self  
   19. Count of Range Sum  
   20. Is Subsequence  
   21. Valid Perfect Square  
   22. Arranging Coins  
   23. Heaters  
   24. Find K Closest Elements  
   25. H-Index  
   26. H-Index II  
   27. First Missing Positive  
   28. Find the Duplicate Number  
   29. Maximum Gap  
   30.Super Pow  
   31. Missing Number  
   32. Kth Largest Element in an Array  
   33. H-Index III  
   34. Find the Kth Smallest Sum of a Matrix With Sorted Rows  
   35. Find the Kth Smallest Pair Distance  
   36. Find the Smallest Divisor Given a Threshold  
   37. Find K-th Smallest Pair Distance  
   38. Find the Kth Number in Lexicographical Order  
   39. Find the Median of Two Sorted Arrays of Size n and m  
   40. Find K Pairs with Smallest Sums

**Frequently asked String Problems in**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7017103766101368832)**companies in 2022**

1. Valid Parentheses  
2. Generate Parentheses  
3. Valid Palindrome  
4. Palindrome Partitioning  
5. Palindrome Partitioning II  
6. Isomorphic Strings  
7. Shortest Palindrome  
8. Different Ways to Add Parentheses  
9. Valid Anagram  
10. Remove Invalid Parentheses  
11. Additive Number  
12. Palindrome Pairs  
13. Longest Palindrome  
14. Sort Characters By Frequency  
15. Longest Palindromic Subsequence  
16. Find the Closest Palindrome  
17. Palindromic Substrings  
18. Valid Palindrome II  
19. Custom Sort String  
20. Score of Parentheses  
21. Buddy Strings  
22. Remove Outermost Parentheses  
23. Longest Duplicate Substring  
24. Longest String Chain  
25. Longest Common Subsequence  
26. Longest Chunked Palindrome Decomposition  
27. Break a Palindrome  
28. Can Make Palindrome from Substring  
29. Longest Happy String  
30. Maximum Length of a Concatenated String with Unique Characters  
31. Minimum Remove to Make Valid Parentheses  
32. Palindrome Partitioning III  
33. Maximum Number of Occurrences of a Substring  
34. Minimum Insertion Steps to Make a String Palindrome  
35. Remove Palindromic Subsequences  
36. Increasing Decreasing String  
37. Construct K Palindrome Strings  
38. Longest Happy Prefix  
39. Check If a String Can Break Another String  
40. Find Longest Awesome Substring  
41. Maximum Nesting Depth of the Parentheses  
42. Split Two Strings to Make Palindrome  
43. Largest Substring Between Two Equal Characters  
44. Determine if Two Strings Are Close  
45. Check If Two String Arrays are Equivalent  
46. Sum of Beauty of All Substrings  
47. Check if One String Swap Can Make Strings Equal  
48. Check if Word Equals Summation of Two Words  
49. Largest Odd Number in String  
50. Number of Wonderful Substrings

**DP Frequently Asked Problems in**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7015654361338908672)**Companies!!**

1. Longest Common Subsequence  
   2. Buy and Sell Stocks II  
   3. Longest Common Substring problem  
   4. Longest Palindromic Subsequence using Dynamic Programming  
   5. Longest Repeated Subsequence Problem  
   6. Implement Diff Utility  
   7. Shortest Common Supersequence  
   8. Buy and Sell Stocks III  
   9. Longest Increasing Subsequence  
   10. Longest Bitonic Subsequence  
   11. Increasing Subsequence with Maximum Sum  
   12. The Levenshtein distance (Edit distance) problem  
   13. Find size of largest square sub-matrix of 1’s present in given binary matrix  
   14. Matrix Chain Multiplication using Dynamic Programming  
   15. Find the minimum cost to reach last cell of the matrix from its first cell  
   16. Find longest sequence formed by adjacent numbers in the matrix  
   17. Count number of paths in a matrix with given cost to reach destination cell  
   18. 0–1 Knapsack problem  
   19. Maximize the Value of an Expression  
   20. Partition problem | Dynamic Programming Solution  
   21. Subset Sum Problem  
   22. Minimum Sum Partition Problem  
   23. Find all N-digit binary strings without any consecutive 1’s  
   24. Rod Cutting Problem  
   25. Maximum Product Rod Cutting  
   26. Coin change-making problem (unlimited supply of coins)  
   27. Coin Change Problem (Total number of ways to get the denomination of coins)  
   28. Longest Alternating Subsequence Problem  
   29. Count number of times a pattern appears in given string as a subsequence  
   30. Collect maximum points in a matrix by satisfying given constraints  
   31. Count total possible combinations of N-digit numbers in a mobile keypad  
   32. Find Optimal Cost to Construct Binary Search Tree  
   33. Word Break Problem | Dynamic Programming  
   34. Word Break Problem | Using Trie Data Structure  
   35. Total possible solutions to linear equation of k variables  
   36. Wildcard Pattern Matching  
   37. Find Probability that a Person is Alive after Taking N steps on an Island  
   38. Calculate sum of all elements in a sub-matrix in constant time  
   39. Find Maximum Sum Submatrix in a given matrix  
   40. Find Maximum Sum Submatrix present in a given matrix  
   41. Find maximum sum of subsequence with no adjacent elements  
   42. Maximum Subarray Problem (Kadane’s algorithm)  
   43. Single-Source Shortest Paths — Bellman Ford Algorithm  
   44. All-Pairs Shortest Paths — Floyd Warshall Algorithm  
   45. Pots of Gold Game  
   46. Find minimum cuts needed for palindromic partition of a string  
   47. Maximum Length Snake Sequence  
   48. 3-Partition Problem  
   49. Calculate size of the largest plus of 1’s in binary matrix  
   50. Check if given string is interleaving of two other given strings

**25 Frequently asked problems in Microsoft!!**  
  
1. Two Sum (27 times)  
2. LRU Cache (27 times)  
3. Number of Islands (22 times)  
4. Longest Palindromic Substring (20 times)  
5. Reverse Words in a String (18 times)  
6. Add Two Numbers (17 times)  
7. First Missing Positive (16 times)  
8. Maximum Subarray (16 times)  
9. Spiral Matrix (15 times)  
10. Validate Binary Search Tree (13 times)  
11. Longest Substring Without Repeating Characters (12 times)   
12. Trapping Rain Water (12 times)  
13. Find the Duplicate Number (11 times)  
14. Merge Sorted Array (11 times)  
15. Best Time to Buy and Sell Stock (11 times)  
16. Letter Combinations of a Phone Number (11 times)  
17. Search in Rotated Sorted Array (11 times)  
18. Maximum Length of a Concatenated String with Unique Characters (10 times)  
19. Reverse Nodes in k-Group (10 times)  
20. Remove Nth Node From End of List (10 times)  
21. Add Two Numbers II (9 times)  
22. Search a 2D Matrix II (9 times)  
23. Reverse Linked List (9 times)  
24. Course Schedule II (8 times)

**50 Graph Problems to get into**[**#MAANG**](https://www.linkedin.com/feed/hashtag/?keywords=maang&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7006232326783328256)**Companies!!**

1 Surrounded Regions  
2. Clone Graph  
3. Number of Islands  
4. Course Schedule  
5. Course Schedule II  
6. Minimum Height Trees  
7. Water and Jug Problem  
8. Evaluate Division  
9. Pacific Atlantic Water Flow  
10. Minimum Genetic Mutation  
11. 01 Matrix  
12. Number of Provinces  
13. Redundant Connection  
14. Employee Importance  
15. Max Area of Island  
16. Accounts Merge  
17. Flood Fill  
18. Network Delay Time  
19. Open the Lock  
20. Is Graph Bipartite?  
21. All Paths From Source to Target  
22. Find Eventual Safe States  
23. Keys and Rooms  
24. Shortest Path Visiting All Nodes  
25. Reachable Nodes In Subdivided Graph  
26. Possible Bipartition  
27. Shortest Bridge  
28. Most Stones Removed with Same Row or Column  
29. Regions Cut By Slashes  
30. Satisfiability of Equality Equations  
31. Rotting Oranges  
32. Find the Town Judge  
33. Number of Enclaves  
34. As Far from Land as Possible  
35. Shortest Path in Binary Matrix  
36. Shortest Path with Alternating Colors  
37. Number of Closed Islands  
38. Get Watched Videos by Your Friends  
39. Number of Operations to Make Network Connected  
40. Find the City With the Smallest Number of Neighbors at a Threshold Distance  
41. Time Needed to Inform All Employees  
42. Reorder Routes to Make All Paths Lead to the City Zero  
43. Maximal Network Rank  
44. Minimum Jumps to Reach Home  
45. Count Sub Islands  
46. Nearest Exit from Entrance in Maze