**Arrays**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Reverse the array | [Link](https://www.geeksforgeeks.org/write-a-program-to-reverse-an-array-or-string/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-an-array/0) |
| Find the maximum and minimum element in an array | [Link](https://www.geeksforgeeks.org/maximum-and-minimum-in-an-array/) | [Link](https://practice.geeksforgeeks.org/problems/find-minimum-and-maximum-element-in-an-array4428/1) |
| Find the “Kth” max and min element of an array | [Link](https://www.geeksforgeeks.org/kth-smallestlargest-element-unsorted-array-set-2-expected-linear-time/) | [Link](https://practice.geeksforgeeks.org/problems/kth-smallest-element/0) |
| Given an array which consists of only 0, 1 and 2. Sort the array without using any sorting algo | [Link](https://www.geeksforgeeks.org/sort-an-array-of-0s-1s-and-2s/) | [Link](https://practice.geeksforgeeks.org/problems/sort-an-array-of-0s-1s-and-2s/0) |
| Move all the negative elements to one side of the array | [Link](https://www.geeksforgeeks.org/move-negative-numbers-beginning-positive-end-constant-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/move-all-negative-elements-to-end1813/1) |
| Find the Union and Intersection of the two sorted arrays. | [Link](https://www.geeksforgeeks.org/find-union-and-intersection-of-two-unsorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/union-of-two-arrays/0) |
| Write a program to cyclically rotate an array by one. | [Link](https://www.geeksforgeeks.org/c-program-cyclically-rotate-array-one/) | [Link](https://practice.geeksforgeeks.org/problems/cyclically-rotate-an-array-by-one/0) |
| Find Largest sum contiguous Subarray [V. IMP] | [Link](https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/) | [Link](https://practice.geeksforgeeks.org/problems/kadanes-algorithm/0) |
| Minimize the maximum difference between heights [V.IMP] | [Link](https://www.geeksforgeeks.org/minimize-the-maximum-difference-between-the-heights/) | [Link](https://practice.geeksforgeeks.org/problems/minimize-the-heights3351/1) |
| Minimum no. of Jumps to reach end of an array | [Link](https://www.geeksforgeeks.org/minimum-number-jumps-reach-endset-2on-solution/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-number-of-jumps/0) |
| Find duplicate in an array of N+1 Integers | [Link](https://www.geeksforgeeks.org/find-duplicates-in-on-time-and-constant-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/find-duplicates-in-an-array/1) |
| Merge 2 sorted arrays without using Extra space. | [Link](https://www.geeksforgeeks.org/merge-two-sorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/merge-two-sorted-arrays5135/1) |
| Kadane’s Algo [V.V.V.V.V IMP] | [Link](https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/) | [Link](https://practice.geeksforgeeks.org/problems/kadanes-algorithm/0) |
| Merge Intervals | [Link](https://www.geeksforgeeks.org/merging-intervals/) | [Link](https://practice.geeksforgeeks.org/problems/8a644e94faaa94968d8665ba9e0a80d1ae3e0a2d/1) |
| Next Permutation | [Link](https://www.geeksforgeeks.org/find-the-next-lexicographically-greater-word-than-a-given-word/) | [Link](https://practice.geeksforgeeks.org/problems/next-permutation5226/1) |
| Count Inversion | [Link](https://www.geeksforgeeks.org/counting-inversions/) | [Link](https://practice.geeksforgeeks.org/problems/inversion-of-array/0) |
| Best time to buy and Sell stock | [Link](https://www.geeksforgeeks.org/best-time-to-buy-and-sell-stock/) | [Link](https://practice.geeksforgeeks.org/problems/stock-buy-and-sell-1587115621/1) |
| Find all pairs on integer array whose sum is equal to given number | [Link](https://www.geeksforgeeks.org/count-pairs-with-given-sum/) | [Link](https://practice.geeksforgeeks.org/problems/count-pairs-with-given-sum5022/1) |
| Find common elements In 3 sorted arrays | [Link](https://www.geeksforgeeks.org/find-common-elements-three-sorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/common-elements1132/1) |
| Rearrange the array in alternating positive and negative items with O(1) extra space | [Link](https://www.geeksforgeeks.org/rearrange-array-alternating-positive-negative-items-o1-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/-rearrange-array-alternately-1587115620/1) |
| Find if there is any subarray with sum equal to 0 | [Link](https://www.geeksforgeeks.org/find-if-there-is-a-subarray-with-0-sum/) | [Link](https://practice.geeksforgeeks.org/problems/subarray-with-0-sum/0) |
| Find factorial of a large number | [Link](https://www.geeksforgeeks.org/factorial-large-number/) | [Link](https://practice.geeksforgeeks.org/problems/factorials-of-large-numbers/0) |
| Find maximum product subarray | [Link](https://www.geeksforgeeks.org/maximum-product-subarray-set-3/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-product-subarray3604/1) |
| Find longest consecutive subsequence | [Link](https://www.geeksforgeeks.org/longest-consecutive-subsequence/) | [Link](https://practice.geeksforgeeks.org/problems/longest-consecutive-subsequence/0) |
| Given an array of size n and a number k, fin all elements that appear more than ” n/k ” times. | [Link](https://www.geeksforgeeks.org/given-an-array-of-of-size-n-finds-all-the-elements-that-appear-more-than-nk-times/) | [Link](https://practice.geeksforgeeks.org/problems/count-element-occurences/1) |
| Maximum profit by buying and selling a share at most twice | [Link](https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-twice/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-profit4657/1) |
| Find whether an array is a subset of another array | [Link](https://www.geeksforgeeks.org/find-whether-an-array-is-subset-of-another-array-set-1/) | [Link](https://practice.geeksforgeeks.org/problems/array-subset-of-another-array/0) |
| Find the triplet that sum to a given value | [Link](https://www.geeksforgeeks.org/find-a-triplet-that-sum-to-a-given-value/) | [Link](https://practice.geeksforgeeks.org/problems/triplet-sum-in-array/0) |
| Trapping Rain water problem | [Link](https://www.geeksforgeeks.org/trapping-rain-water/) | [Link](https://practice.geeksforgeeks.org/problems/trapping-rain-water/0) |
| Chocolate Distribution problem | [Link](https://www.geeksforgeeks.org/chocolate-distribution-problem/) | [Link](https://practice.geeksforgeeks.org/problems/chocolate-distribution-problem/0) |
| Smallest Subarray with sum greater than a given value | [Link](https://www.geeksforgeeks.org/minimum-length-subarray-sum-greater-given-value/) | [Link](https://practice.geeksforgeeks.org/problems/smallest-subarray-with-sum-greater-than-x/0) |
| Three way partitioning of an array around a given value | [Link](https://www.geeksforgeeks.org/three-way-partitioning-of-an-array-around-a-given-range/) | [Link](https://practice.geeksforgeeks.org/problems/three-way-partitioning/1) |
| Minimum swaps required bring elements less equal K together | [Link](https://www.geeksforgeeks.org/minimum-swaps-required-bring-elements-less-equal-k-together/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-swaps-required-to-bring-all-elements-less-than-or-equal-to-k-together/0) |
| Minimum no. of operations required to make an array palindrome | [Link](https://www.geeksforgeeks.org/check-if-all-elements-of-the-array-are-palindrome-or-not/) | [Link](https://practice.geeksforgeeks.org/problems/palindromic-array/0) |
| Median of 2 sorted arrays of equal size | [Link](https://www.geeksforgeeks.org/median-of-two-sorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/find-the-median0527/1) |
| Median of 2 sorted arrays of different size | [Link](https://www.geeksforgeeks.org/median-of-two-sorted-arrays-of-different-sizes/) | [Link](https://practice.geeksforgeeks.org/problems/median-of-2-sorted-arrays-of-different-sizes/1) |

**Matrix**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Spiral traversal on a Matrix | [Link](https://www.geeksforgeeks.org/print-a-given-matrix-in-spiral-form/) | [LInk](https://practice.geeksforgeeks.org/problems/spirally-traversing-a-matrix/0) |
| Search an element in a Matrix | [Link](https://www.geeksforgeeks.org/search-in-row-wise-and-column-wise-sorted-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/search-in-a-matrix-1587115621/1) |
| Find median in a row wise sorted matrix | [Link](https://www.geeksforgeeks.org/find-median-row-wise-sorted-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/median-in-a-row-wise-sorted-matrix1527/1) |
| Find row with maximum no. of 1’s | [Link](https://www.geeksforgeeks.org/find-the-row-with-maximum-number-1s/) | [Link](https://practice.geeksforgeeks.org/problems/row-with-max-1s0023/1) |
| Print elements in sorted order using row-column wise sorted matrix | [Link](https://www.geeksforgeeks.org/print-elements-sorted-order-row-column-wise-sorted-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/sorted-matrix/0) |
| Maximum size rectangle | [Link](https://www.geeksforgeeks.org/maximum-size-rectangle-binary-sub-matrix-1s/) | [Link](https://practice.geeksforgeeks.org/problems/max-rectangle/1) |
| Find a specific pair in matrix | [Link](https://www.geeksforgeeks.org/find-a-specific-pair-in-matrix/) | NA |
| Rotate matrix by 90 degrees | [Link](https://www.geeksforgeeks.org/rotate-a-matrix-by-90-degree-in-clockwise-direction-without-using-any-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/rotate-by-90-degree0356/1) |
| Kth smallest element in a row-column wise sorted matrix | [Link](https://www.geeksforgeeks.org/kth-smallest-element-in-a-row-wise-and-column-wise-sorted-2d-array-set-1/) | [Link](https://practice.geeksforgeeks.org/problems/kth-element-in-matrix/1) |
| Common elements in all rows of a given matrix | [Link](https://www.geeksforgeeks.org/common-elements-in-all-rows-of-a-given-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/common-elements1132/1) |

**Strings**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Reverse a String | [Link](https://www.geeksforgeeks.org/program-reverse-string-iterative-recursive/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-a-string/1) |
| Check whether a String is Palindrome or not | [Link](https://www.geeksforgeeks.org/c-program-check-given-string-palindrome/) | [Link](https://practice.geeksforgeeks.org/problems/palindrome-string0817/1) |
| Find Duplicate characters in a string | [Link](https://www.geeksforgeeks.org/print-all-the-duplicates-in-the-input-string/) | NA |
| Why strings are immutable in Java? | [Link](https://www.geeksforgeeks.org/java-string-is-immutable-what-exactly-is-the-meaning/) | NA |
| Write a Code to check whether one string is a rotation of another | [Link](https://www.geeksforgeeks.org/a-program-to-check-if-strings-are-rotations-of-each-other/) | [Link](https://practice.geeksforgeeks.org/problems/check-if-strings-are-rotations-of-each-other-or-not-1587115620/1) |
| Write a Program to check whether a string is a valid shuffle of two strings or not | [Link](https://www.geeksforgeeks.org/check-if-the-given-string-is-shuffled-substring-of-another-string/) | NA |
| Count and Say problem | [Link](https://www.geeksforgeeks.org/look-and-say-sequence/) | [Link](https://practice.geeksforgeeks.org/problems/decode-the-pattern1138/1) |
| Write a program to find the longest Palindrome in a string.[ Longest palindromic Substring] | [Link](https://www.geeksforgeeks.org/longest-palindromic-substring-set-2/) | [Link](https://practice.geeksforgeeks.org/problems/longest-palindrome-in-a-string/0) |
| Find Longest Recurring Subsequence in String | [Link](https://www.geeksforgeeks.org/longest-repeating-subsequence/) | [Link](https://practice.geeksforgeeks.org/problems/longest-repeating-subsequence/0) |
| Print all Subsequences of a string. | [Link](https://www.geeksforgeeks.org/print-subsequences-string/) | NA |
| Print all the permutations of the given string | [Link](https://www.geeksforgeeks.org/write-a-c-program-to-print-all-permutations-of-a-given-string/) | [Link](https://practice.geeksforgeeks.org/problems/permutations-of-a-given-string/0) |
| Split the Binary string into two substring with equal 0’s and 1’s | [Link](https://www.geeksforgeeks.org/split-the-binary-string-into-substrings-with-equal-number-of-0s-and-1s/) | NA |
| Word Wrap Problem [VERY IMP]. | [Link](https://www.geeksforgeeks.org/word-wrap-problem-dp-19/) | [Link](https://practice.geeksforgeeks.org/problems/word-wrap/0) |
| EDIT Distance [Very Imp] | [Link](https://www.geeksforgeeks.org/edit-distance-dp-5/) | [Link](https://practice.geeksforgeeks.org/problems/edit-distance3702/1) |
| Find next greater number with same set of digits. [Very Very IMP] | [Link](https://www.geeksforgeeks.org/find-next-greater-number-set-digits/) | [Link](https://practice.geeksforgeeks.org/problems/next-permutation/0) |
| Balanced Parenthesis problem.[Imp] | [Link](https://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/) | [Link](https://practice.geeksforgeeks.org/problems/parenthesis-checker/0) |
| Word break Problem[ Very Imp] | [Link](https://www.geeksforgeeks.org/word-break-problem-dp-32/) | [Link](https://practice.geeksforgeeks.org/problems/word-break/0) |
| Rabin Karp Algorithm | [Link](https://www.geeksforgeeks.org/rabin-karp-algorithm-for-pattern-searching/) | [Link](https://practice.geeksforgeeks.org/problems/31272eef104840f7430ad9fd1d43b434a4b9596b/1/) |
| KMP Algorithm | [Link](https://www.geeksforgeeks.org/longest-prefix-also-suffix/) | [Link](https://practice.geeksforgeeks.org/problems/longest-prefix-suffix2527/1) |
| Convert a Sentence into its equivalent mobile numeric keypad sequence. | [Link](https://www.geeksforgeeks.org/convert-sentence-equivalent-mobile-numeric-keypad-sequence/) | [Link](https://practice.geeksforgeeks.org/problems/convert-a-sentence-into-its-equivalent-mobile-numeric-keypad-sequence/0) |
| Minimum number of bracket reversals needed to make an expression balanced. | [Link](https://www.geeksforgeeks.org/minimum-number-of-bracket-reversals-needed-to-make-an-expression-balanced/) | [Link](https://practice.geeksforgeeks.org/problems/count-the-reversals/0) |
| Count All Palindromic Subsequence in a given String. | [Link](https://www.geeksforgeeks.org/count-palindromic-subsequence-given-string/) | [Link](https://practice.geeksforgeeks.org/problems/count-palindromic-subsequences/1) |
| Count of number of given string in 2D character array | [Link](https://www.geeksforgeeks.org/find-count-number-given-string-present-2d-character-array/) | [Link](https://practice.geeksforgeeks.org/problems/count-occurences-of-a-given-word-in-a-2-d-array/1/) |
| Search a Word in a 2D Grid of characters. | [Link](https://www.geeksforgeeks.org/search-a-word-in-a-2d-grid-of-characters/) | [Link](https://practice.geeksforgeeks.org/problems/find-the-string-in-grid/0) |
| Boyer Moore Algorithm for Pattern Searching. | [Link](https://www.geeksforgeeks.org/boyer-moore-algorithm-for-pattern-searching/) | [Link](https://practice.geeksforgeeks.org/problems/pattern-searching5231/1) |
| Converting Roman Numerals to Decimal | [Link](https://www.geeksforgeeks.org/converting-roman-numerals-decimal-lying-1-3999/) | [Link](https://practice.geeksforgeeks.org/problems/roman-number-to-integer/0) |
| Longest Common Prefix | [Link](https://www.geeksforgeeks.org/longest-common-prefix-using-word-by-word-matching/) | [Link](https://practice.geeksforgeeks.org/problems/longest-common-prefix-in-an-array5129/1/) |
| Number of flips to make binary string alternate | [Link](https://www.geeksforgeeks.org/number-flips-make-binary-string-alternate/) | [Link](https://practice.geeksforgeeks.org/problems/min-number-of-flips/0) |
| Find the first repeated word in string. | [Link](https://www.geeksforgeeks.org/find-first-repeated-word-string/) | [Link](https://practice.geeksforgeeks.org/problems/find-first-repeated-character4108/1) |
| Minimum number of swaps for bracket balancing. | [Link](https://www.geeksforgeeks.org/minimum-swaps-bracket-balancing/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-swaps-for-bracket-balancing/0) |
| Find the longest common subsequence between two strings. | [Link](https://www.geeksforgeeks.org/longest-common-subsequence-dp-4/) | [Link](https://practice.geeksforgeeks.org/problems/longest-common-subsequence/0) |
| Program to generate all possible valid IP addresses from given  string. | [Link](https://www.geeksforgeeks.org/program-generate-possible-valid-ip-addresses-given-string/) | [Link](https://practice.geeksforgeeks.org/problems/generate-ip-addresses/1) |
| Write a program to find the smallest window that contains all characters of string itself. | [Link](https://www.geeksforgeeks.org/smallest-window-contains-characters-string/) | [Link](https://practice.geeksforgeeks.org/problems/smallest-distant-window/0) |
| Rearrange characters in a string such that no two adjacent are same | [Link](https://www.geeksforgeeks.org/rearrange-characters-string-no-two-adjacent/) | [Link](https://practice.geeksforgeeks.org/problems/rearrange-characters/0) |
| Minimum characters to be added at front to make string palindrome | [Link](https://www.geeksforgeeks.org/minimum-characters-added-front-make-string-palindrome/) | [Link](https://practice.geeksforgeeks.org/problems/form-a-palindrome1455/1) |
| Given a sequence of words, print all anagrams together | [Link](https://www.geeksforgeeks.org/given-a-sequence-of-words-print-all-anagrams-together-using-stl/) | [Link](https://practice.geeksforgeeks.org/problems/k-anagrams-1/0) |
| Find the smallest window in a string containing all characters of another string | [Link](https://www.geeksforgeeks.org/find-the-smallest-window-in-a-string-containing-all-characters-of-another-string/) | [Link](https://practice.geeksforgeeks.org/problems/smallest-window-in-a-string-containing-all-the-characters-of-another-string/0) |
| Recursively remove all adjacent duplicates | [Link](https://www.geeksforgeeks.org/remove-consecutive-duplicates-string/) | [Link](https://practice.geeksforgeeks.org/problems/consecutive-elements/0) |
| String matching where one string contains wildcard characters | [Link](https://www.geeksforgeeks.org/wildcard-character-matching/) | [Link](https://practice.geeksforgeeks.org/problems/wildcard-string-matching/0) |
| Function to find Number of customers who could not get a computer | [Link](https://www.geeksforgeeks.org/function-to-find-number-of-customers-who-could-not-get-a-computer/) | NA |
| Transform One String to Another using Minimum Number of Given Operation | [Link](https://www.geeksforgeeks.org/transform-one-string-to-another-using-minimum-number-of-given-operation/) | [Link](https://practice.geeksforgeeks.org/problems/transform-string5648/1) |
| Check if two given strings are isomorphic to each other | [Link](https://www.geeksforgeeks.org/check-if-two-given-strings-are-isomorphic-to-each-other/) | [Link](https://practice.geeksforgeeks.org/problems/isomorphic-strings/0) |
| Recursively print all sentences that can be formed from list of word lists | [Link](https://www.geeksforgeeks.org/recursively-print-all-sentences-that-can-be-formed-from-list-of-word-lists/) | NA |

**Searching and Sorting**:

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Find first and last positions of an element in a sorted array | [Link](https://www.geeksforgeeks.org/find-first-and-last-positions-of-an-element-in-a-sorted-array/) | [Link](https://practice.geeksforgeeks.org/problems/first-and-last-occurrences-of-x/0) |
| Find a Fixed Point (Value equal to index) in a given array | [Link](https://www.geeksforgeeks.org/find-a-fixed-point-in-a-given-array/) | [Link](https://practice.geeksforgeeks.org/problems/value-equal-to-index-value1330/1) |
| Search in a rotated sorted array | [Link](https://www.geeksforgeeks.org/search-an-element-in-a-sorted-and-pivoted-array/) | [Link](https://practice.geeksforgeeks.org/problems/search-in-a-rotated-array0959/1/?category) |
| Square root of an integer | [Link](https://www.geeksforgeeks.org/square-root-of-an-integer/) | [Link](https://practice.geeksforgeeks.org/problems/count-squares3649/1) |
| Maximum and minimum of an array using minimum number of comparisons | [Link](https://www.geeksforgeeks.org/maximum-and-minimum-in-an-array/) | [Link](https://practice.geeksforgeeks.org/problems/middle-of-three2926/1) |
| Optimum location of point to minimize total distance | [Link](https://www.geeksforgeeks.org/optimum-location-point-minimize-total-distance/#:~:text=We%20need%20to%20find%20a,set%20of%20points%20is%20minimum.&text=In%20above%20figure%20optimum%20location,is%20minimum%20obtainable%20total%20distance.) | Link |
| Find the repeating and the missing | [Link](https://www.geeksforgeeks.org/find-a-repeating-and-a-missing-number/) | [Link](https://practice.geeksforgeeks.org/problems/find-missing-and-repeating2512/1) |
| Find majority element | [Link](https://www.geeksforgeeks.org/majority-element/) | [Link](https://practice.geeksforgeeks.org/problems/majority-element/0) |
| Searching in an array where adjacent differ by at most k | [Link](https://www.geeksforgeeks.org/searching-array-adjacent-differ-k/) | Link |
| Find a pair with a given difference | [Link](https://www.geeksforgeeks.org/find-a-pair-with-the-given-difference/) | [Link](https://practice.geeksforgeeks.org/problems/find-pair-given-difference/0) |
| Find four elements that sum to a given value | [Link](https://www.geeksforgeeks.org/find-four-numbers-with-sum-equal-to-given-sum/) | [Link](https://practice.geeksforgeeks.org/problems/find-all-four-sum-numbers/0) |
| Maximum sum such that no 2 elements are adjacent | [Link](https://www.geeksforgeeks.org/maximum-sum-such-that-no-two-elements-are-adjacent/) | [Link](https://practice.geeksforgeeks.org/problems/stickler-theif/0) |
| Count triplet with sum smaller than a given value | [Link](https://www.geeksforgeeks.org/count-triplets-with-sum-smaller-that-a-given-value/) | [Link](https://practice.geeksforgeeks.org/problems/count-triplets-with-sum-smaller-than-x5549/1) |
| Merge 2 sorted arrays | [Link](https://www.geeksforgeeks.org/merge-two-sorted-arrays-o1-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/merge-two-sorted-arrays-1587115620/1) |
| Product array Puzzle | [Link](https://www.geeksforgeeks.org/product-array-puzzle-set-2-o1-space/) | [Link](https://practice.geeksforgeeks.org/problems/product-array-puzzle/0) |
| Sort array according to count of set bits | [Link](https://www.geeksforgeeks.org/sort-array-according-count-set-bits/) | [Link](https://practice.geeksforgeeks.org/problems/sort-by-set-bit-count/0) |
| Minimum no. of swaps required to sort the array | [Link](https://www.geeksforgeeks.org/minimum-number-swaps-required-sort-array/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-swaps/1) |
| Bishu and Soldiers | Link | Link |
| Rasta and Kheshtak | Link | [Link](https://www.hackerearth.com/practice/algorithms/searching/binary-search/practice-problems/algorithm/rasta-and-kheshtak/) |
| Kth smallest number again | [Link](https://www.geeksforgeeks.org/find-k-th-smallest-element-in-given-n-ranges/) | Link |
| Find pivot element in a sorted array | [Link](https://www.geeksforgeeks.org/find-minimum-element-in-a-sorted-and-rotated-array/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-element-in-a-sorted-and-rotated-array3611/1/) |
| K-th Element of Two Sorted Arrays | [Link](https://www.geeksforgeeks.org/k-th-element-two-sorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/k-th-element-of-two-sorted-array/0) |
| Aggressive cows | Link | [Link](https://www.spoj.com/problems/AGGRCOW/) |
| Book Allocation Problem | [Link](https://www.geeksforgeeks.org/allocate-minimum-number-pages/) | [Link](https://practice.geeksforgeeks.org/problems/allocate-minimum-number-of-pages/0) |
| EKOSPOJ: | Link | [Link](https://www.spoj.com/problems/EKO/) |
| Job Scheduling Algo | [Link](https://www.geeksforgeeks.org/weighted-job-scheduling-log-n-time/) | Link |
| Missing Number in AP | [Link](https://www.geeksforgeeks.org/find-missing-number-arithmetic-progression/) | [Link](https://practice.geeksforgeeks.org/problems/arithmetic-number/0) |
| Smallest number with atleast n trailing zeroes in factorial | [Link](https://www.geeksforgeeks.org/smallest-number-least-n-trailing-zeroes-factorial/) | [Link](https://practice.geeksforgeeks.org/problems/smallest-factorial-number5929/1) |
| Painters Partition Problem: | Link | [Link](https://practice.geeksforgeeks.org/problems/allocate-minimum-number-of-pages/0) |
| ROTI-Prata SPOJ | Link | [Link](https://www.spoj.com/problems/PRATA/) |
| DoubleHelix SPOJ | Link | [Link](https://www.spoj.com/problems/ANARC05B/) |
| Subset Sums | Link | [Link](https://practice.geeksforgeeks.org/problems/inversion-of-array/0) |
| Find the inversion count | [Link](https://www.geeksforgeeks.org/counting-inversions/) | [Link](https://practice.geeksforgeeks.org/problems/inversion-of-array/0) |
| Implement Merge-sort in-place | [Link](https://www.geeksforgeeks.org/in-place-merge-sort/) | Link |
| Partitioning and Sorting Arrays with Many Repeated Entries | [Link](https://www.baeldung.com/java-sorting-arrays-with-repeated-entries) | Link |

**LinkedList**:

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Write a Program to reverse the Linked List. (Both Iterative and recursive) | [Link](https://www.geeksforgeeks.org/reverse-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-a-linked-list/1) |
| Reverse a Linked List in group of Given Size. [Very Imp] | [Link](https://www.geeksforgeeks.org/reverse-a-list-in-groups-of-given-size/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-a-linked-list-in-groups-of-given-size/1) |
| Write a program to Detect loop in a linked list. | [Link](https://www.geeksforgeeks.org/detect-loop-in-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/detect-loop-in-linked-list/1) |
| Write a program to Delete loop in a linked list. | [Link](https://www.geeksforgeeks.org/detect-and-remove-loop-in-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/remove-loop-in-linked-list/1) |
| Find the starting point of the loop. | [Link](https://www.geeksforgeeks.org/find-first-node-of-loop-in-a-linked-list/) | Link |
| Remove Duplicates in a sorted Linked List. | [Link](https://www.geeksforgeeks.org/remove-duplicates-from-a-sorted-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/remove-duplicate-element-from-sorted-linked-list/1) |
| Remove Duplicates in a Un-sorted Linked List. | [Link](https://www.geeksforgeeks.org/remove-duplicates-from-an-unsorted-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/remove-duplicates-from-an-unsorted-linked-list/1) |
| Write a Program to Move the last element to Front in a Linked List. | [Link](https://www.geeksforgeeks.org/move-last-element-to-front-of-a-given-linked-list/) | Link |
| Add “1” to a number represented as a Linked List. | [Link](https://www.geeksforgeeks.org/add-1-number-represented-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/add-1-to-a-number-represented-as-linked-list/1) |
| Add two numbers represented by linked lists. | [Link](https://www.geeksforgeeks.org/add-two-numbers-represented-by-linked-lists-set-3/) | [Link](https://practice.geeksforgeeks.org/problems/add-two-numbers-represented-by-linked-lists/1) |
| Intersection of two Sorted Linked List. | [Link](https://www.geeksforgeeks.org/intersection-of-two-sorted-linked-lists/) | [Link](https://practice.geeksforgeeks.org/problems/intersection-of-two-sorted-linked-lists/1) |
| Intersection Point of two Linked Lists. | [Link](https://www.geeksforgeeks.org/write-a-function-to-get-the-intersection-point-of-two-linked-lists/) | [Link](https://practice.geeksforgeeks.org/problems/intersection-point-in-y-shapped-linked-lists/1) |
| Merge Sort For Linked lists.[Very Important] | [Link](https://practice.geeksforgeeks.org/problems/sort-a-linked-list/1) | [Link](https://practice.geeksforgeeks.org/problems/sort-a-linked-list/1) |
| Quicksort for Linked Lists.[Very Important] | [Link](https://www.geeksforgeeks.org/quicksort-on-singly-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/quick-sort-on-linked-list/1) |
| Find the middle Element of a linked list. | [Link](https://www.geeksforgeeks.org/write-a-c-function-to-print-the-middle-of-the-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/finding-middle-element-in-a-linked-list/1) |
| Check if a linked list is a circular linked list. | [Link](https://www.geeksforgeeks.org/check-if-a-linked-list-is-circular-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/circular-linked-list/1) |
| Split a Circular linked list into two halves. | [Link](https://www.geeksforgeeks.org/split-a-circular-linked-list-into-two-halves/) | [Link](https://practice.geeksforgeeks.org/problems/split-a-circular-linked-list-into-two-halves/1) |
| Write a Program to check whether the Singly Linked list is a palindrome or not. | [Link](https://www.geeksforgeeks.org/function-to-check-if-a-singly-linked-list-is-palindrome/) | [Link](https://practice.geeksforgeeks.org/problems/check-if-linked-list-is-pallindrome/1) |
| Deletion from a Circular Linked List. | [Link](https://www.geeksforgeeks.org/deletion-circular-linked-list/) | Link |
| Reverse a Doubly Linked list. | [Link](https://www.geeksforgeeks.org/reverse-a-doubly-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-a-doubly-linked-list/1) |
| Find pairs with a given sum in a DLL. | [Link](https://www.geeksforgeeks.org/find-pairs-given-sum-doubly-linked-list/) | Link |
| Count triplets in a sorted DLL whose sum is equal to given value “X”. | [Link](https://www.geeksforgeeks.org/count-triplets-sorted-doubly-linked-list-whose-sum-equal-given-value-x/) | Link |
| Sort a “k”sorted Doubly Linked list.[Very IMP] | [Link](https://www.geeksforgeeks.org/sort-k-sorted-doubly-linked-list/) | Link |
| Rotate Doubly Linked list by N nodes. | [Link](https://www.geeksforgeeks.org/rotate-doubly-linked-list-n-nodes/) | Link |
| Rotate a Doubly Linked list in group of Given Size.[Very IMP] | [Link](https://www.geeksforgeeks.org/reverse-doubly-linked-list-groups-given-size/) | Link |
| Can we reverse a linked list in less than O(n) ? | Link | Link |
| Why Quicksort is preferred for. Arrays and Merge Sort for Linked Lists ? | Link | Link |
| Flatten a Linked List | [Link](https://www.geeksforgeeks.org/flattening-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/flattening-a-linked-list/1) |
| Sort a LL of 0’s, 1’s and 2’s | [Link](https://www.geeksforgeeks.org/sort-a-linked-list-of-0s-1s-or-2s/) | [Link](https://practice.geeksforgeeks.org/problems/given-a-linked-list-of-0s-1s-and-2s-sort-it/1) |
| Clone a linked list with next and random pointer | [Link](https://www.geeksforgeeks.org/a-linked-list-with-next-and-arbit-pointer/) | [Link](https://practice.geeksforgeeks.org/problems/clone-a-linked-list-with-next-and-random-pointer/1) |
| Merge K sorted Linked list | [Link](https://www.geeksforgeeks.org/merge-k-sorted-linked-lists-set-2-using-min-heap/) | [Link](https://practice.geeksforgeeks.org/problems/merge-k-sorted-linked-lists/1) |
| Multiply 2 no. represented by LL | [Link](https://www.geeksforgeeks.org/multiply-two-numbers-represented-linked-lists/) | [Link](https://practice.geeksforgeeks.org/problems/multiply-two-linked-lists/1) |
| Delete nodes which have a greater value on right side | [Link](https://www.geeksforgeeks.org/delete-nodes-which-have-a-greater-value-on-right-side/) | [Link](https://practice.geeksforgeeks.org/problems/delete-nodes-having-greater-value-on-right/1) |
| Segregate even and odd nodes in a Linked List | [Link](https://www.geeksforgeeks.org/segregate-even-and-odd-elements-in-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/segregate-even-and-odd-nodes-in-a-linked-list/0) |
| Program for n’th node from the end of a Linked List | [Link](https://www.geeksforgeeks.org/nth-node-from-the-end-of-a-linked-list/) | [Link](https://practice.geeksforgeeks.org/problems/nth-node-from-end-of-linked-list/1) |

**Bit Manipulation**:

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Count set bits in an integer | [Link](https://www.geeksforgeeks.org/count-set-bits-in-an-integer/) | [Link](https://practice.geeksforgeeks.org/problems/set-bits0143/1) |
| Find the two non-repeating elements in an array of repeating elements | [Link](https://www.geeksforgeeks.org/find-two-non-repeating-elements-in-an-array-of-repeating-elements/) | [Link](https://practice.geeksforgeeks.org/problems/finding-the-numbers0215/1) |
| Count number of bits to be flipped to convert A to B | [Link](https://www.geeksforgeeks.org/count-number-of-bits-to-be-flipped-to-convert-a-to-b/) | [Link](https://practice.geeksforgeeks.org/problems/bit-difference/0) |
| Count total set bits in all numbers from 1 to n | [Link](https://www.geeksforgeeks.org/count-total-set-bits-in-all-numbers-from-1-to-n/) | [Link](https://practice.geeksforgeeks.org/problems/count-total-set-bits/0) |
| Program to find whether a no is power of two | [Link](https://www.geeksforgeeks.org/program-to-find-whether-a-given-number-is-power-of-2/) | [Link](https://practice.geeksforgeeks.org/problems/power-of-2/0) |
| Find position of the only set bit | [Link](https://www.geeksforgeeks.org/find-position-of-the-only-set-bit/) | [Link](https://practice.geeksforgeeks.org/problems/find-position-of-set-bit3706/1) |
| Copy set bits in a range | [Link](https://www.geeksforgeeks.org/copy-set-bits-in-a-range/) | [Link](https://practice.geeksforgeeks.org/problems/set-all-the-bits-in-given-range-of-a-number/0) |
| Divide two integers without using multiplication, division and mod operator | [Link](https://www.geeksforgeeks.org/divide-two-integers-without-using-multiplication-division-mod-operator/) | [Link](https://practice.geeksforgeeks.org/problems/division-without-using-multiplication-division-and-mod-operator/0/) |
| Calculate square of a number without using \*, / and pow() | [Link](https://www.geeksforgeeks.org/calculate-square-of-a-number-without-using-and-pow/#:~:text=Given%20an%20integer%20n%2C%20calculate,*%2C%20%2F%20and%20pow().&text=A%20Simple%20Solution%20is%20to%20repeatedly%20add%20n%20to%20result.) | Link |
| Power Set | [Link](https://www.geeksforgeeks.org/power-set/) | [Link](https://practice.geeksforgeeks.org/problems/power-set4302/1) |

**Greedy**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Activity Selection Problem | [Link](https://www.geeksforgeeks.org/activity-selection-problem-greedy-algo-1/) | [Link](https://practice.geeksforgeeks.org/problems/n-meetings-in-one-room/0) |
| Job Sequencing Problem | [Link](https://www.geeksforgeeks.org/weighted-job-scheduling/) | [Link](https://practice.geeksforgeeks.org/problems/job-sequencing-problem/0) |
| Huffman Coding | [Link](https://www.geeksforgeeks.org/huffman-coding-greedy-algo-3/) | [Link](https://practice.geeksforgeeks.org/problems/huffman-encoding/0) |
| Water Connection Problem | [Link](https://www.geeksforgeeks.org/water-connection-problem/) | [Link](https://practice.geeksforgeeks.org/problems/water-connection-problem/0) |
| Fractional Knapsack Problem | [Link](https://www.geeksforgeeks.org/fractional-knapsack-problem/) | [Link](https://practice.geeksforgeeks.org/problems/fractional-knapsack/0) |
| Greedy Algorithm to find Minimum number of Coins | [Link](https://www.geeksforgeeks.org/greedy-algorithm-to-find-minimum-number-of-coins/) | [Link](https://practice.geeksforgeeks.org/problems/coin-piles/0) |
| Maximum trains for which stoppage can be provided | [Link](https://www.geeksforgeeks.org/maximum-trains-stoppage-can-provided/) | Link |
| Minimum Platforms Problem | [Link](https://www.geeksforgeeks.org/minimum-number-platforms-required-railwaybus-station/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-platforms/0) |
| Buy Maximum Stocks if i stocks can be bought on i-th day | [Link](https://www.geeksforgeeks.org/buy-maximum-stocks-stocks-can-bought-th-day/) | Link |
| Find the minimum and maximum amount to buy all N candies | [Link](https://www.geeksforgeeks.org/find-minimum-maximum-amount-buy-n-candies/) | [Link](https://practice.geeksforgeeks.org/problems/shop-in-candy-store/0) |
| Minimize Cash Flow among a given set of friends who have borrowed money from each other | [Link](https://www.geeksforgeeks.org/minimize-cash-flow-among-given-set-friends-borrowed-money/) | Link |
| Minimum Cost to cut a board into squares | [Link](https://www.geeksforgeeks.org/minimum-cost-cut-board-squares/) | Link |
| Check if it is possible to survive on Island | [Link](https://www.geeksforgeeks.org/survival/) | Link |
| Find maximum meetings in one room | [Link](https://www.geeksforgeeks.org/find-maximum-meetings-in-one-room/) | Link |
| Maximum product subset of an array | [Link](https://www.geeksforgeeks.org/maximum-product-subset-array/) | Link |
| Maximize array sum after K negations | [Link](https://www.geeksforgeeks.org/maximize-array-sun-after-k-negation-operations/) | [Link](https://practice.geeksforgeeks.org/problems/maximize-sum-after-k-negations/0) |
| Maximize the sum of arr[i]\*i | [Link](https://www.geeksforgeeks.org/maximize-sum-arrii/) | [Link](https://practice.geeksforgeeks.org/problems/maximize-arrii-of-an-array/0) |
| Maximum sum of absolute difference of an array | [Link](https://www.geeksforgeeks.org/minimum-sum-absolute-difference-pairs-two-arrays/#:~:text=It%20consists%20of%20two%20steps,result%20to%20the%20sum%20S.) | Link |
| Maximize sum of consecutive differences in a circular array | [Link](https://www.geeksforgeeks.org/maximize-sum-consecutive-differences-circular-array/) | [Link](https://practice.geeksforgeeks.org/problems/swap-and-maximize/0) |
| Minimum sum of absolute difference of pairs of two arrays | [Link](https://www.geeksforgeeks.org/minimum-sum-absolute-difference-pairs-two-arrays/#:~:text=It%20consists%20of%20two%20steps,result%20to%20the%20sum%20S.) | Link |
| Program for Shortest Job First (or SJF) CPU Scheduling | [Link](https://www.geeksforgeeks.org/program-for-shortest-job-first-or-sjf-cpu-scheduling-set-1-non-preemptive/) | Link |
| Program for Least Recently Used (LRU) Page Replacement algorithm | [Link](https://www.geeksforgeeks.org/program-for-least-recently-used-lru-page-replacement-algorithm/) | [Link](https://practice.geeksforgeeks.org/problems/page-faults-in-lru/0) |
| Smallest subset with sum greater than all other elements | [Link](https://www.geeksforgeeks.org/smallest-subset-sum-greater-elements/) | Link |
| Chocolate Distribution Problem | [Link](https://www.geeksforgeeks.org/chocolate-distribution-problem/) | [Link](https://practice.geeksforgeeks.org/problems/chocolate-distribution-problem/0) |
| DEFKIN -Defense of a Kingdom | Link | [Link](https://www.spoj.com/problems/DEFKIN/) |
| DIEHARD -DIE HARD | Link | [Link](https://www.spoj.com/problems/DIEHARD/) |
| GERGOVIA -Wine trading in Gergovia | Link | [Link](https://www.spoj.com/problems/GERGOVIA/) |
| Picking Up Chicks | Link | [Link](https://www.spoj.com/problems/GCJ101BB/) |
| CHOCOLA –Chocolate | Link | [Link](https://www.spoj.com/problems/CHOCOLA/) |
| ARRANGE -Arranging Amplifiers | Link | [Link](https://www.spoj.com/problems/ARRANGE/) |
| K Centers Problem | [Link](https://www.geeksforgeeks.org/k-centers-problem-set-1-greedy-approximate-algorithm/) | Link |
| Minimum Cost of ropes | [Link](https://www.geeksforgeeks.org/connect-n-ropes-minimum-cost/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-cost-of-ropes/0) |
| Find smallest number with given number of digits and sum of digits | [Link](https://www.geeksforgeeks.org/find-smallest-number-with-given-number-of-digits-and-digit-sum/) | [Link](https://practice.geeksforgeeks.org/problems/smallest-number5829/1) |
| Rearrange characters in a string such that no two adjacent are same | [Link](https://www.geeksforgeeks.org/rearrange-characters-string-no-two-adjacent/) | [Link](https://practice.geeksforgeeks.org/problems/rearrange-characters/0) |
| Find maximum sum possible equal sum of three stacks | [Link](https://www.geeksforgeeks.org/find-maximum-sum-possible-equal-sum-three-stacks/) | Link |

**Backtracking**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Rat in a maze Problem | [Link](https://www.geeksforgeeks.org/rat-in-a-maze-problem-when-movement-in-all-possible-directions-is-allowed/) | [Link](https://practice.geeksforgeeks.org/problems/rat-in-a-maze-problem/1) |
| Printing all solutions in N-Queen | [Link](https://www.geeksforgeeks.org/printing-solutions-n-queen-problem/) | Link |
| Word Break Problem using Backtracking | [Link](https://www.geeksforgeeks.org/word-break-problem-using-backtracking/) | [Link](https://practice.geeksforgeeks.org/problems/word-break-part-2/0) |
| Remove Invalid Parentheses | [Link](https://www.geeksforgeeks.org/remove-invalid-parentheses/) | Link |
| Sudoku Solver | [Link](https://www.geeksforgeeks.org/sudoku-backtracking-7/) | [Link](https://practice.geeksforgeeks.org/problems/solve-the-sudoku/0) |
| M Coloring Problem | [Link](https://www.geeksforgeeks.org/m-coloring-problem-backtracking-5/) | [Link](https://practice.geeksforgeeks.org/problems/m-coloring-problem/0) |
| Print all palindromic partitions of a string | [Link](https://www.geeksforgeeks.org/given-a-string-print-all-possible-palindromic-partition/) | Link |
| Subset Sum Problem | [Link](https://www.geeksforgeeks.org/subset-sum-problem-osum-space/) | [Link](https://practice.geeksforgeeks.org/problems/subset-sum-problem2014/1) |
| The Knight’s tour problem | [Link](https://www.geeksforgeeks.org/the-knights-tour-problem-backtracking-1/) | Link |
| Tug of War | [Link](https://www.geeksforgeeks.org/tug-of-war/) | Link |
| Find shortest safe route in a path with landmines | [Link](https://www.geeksforgeeks.org/find-shortest-safe-route-in-a-path-with-landmines/) | Link |
| Combinational Sum | [Link](https://www.geeksforgeeks.org/combinational-sum/) | [Link](https://practice.geeksforgeeks.org/problems/combination-sum/0) |
| Find Maximum number possible by doing at-most K swaps | [Link](https://www.geeksforgeeks.org/find-maximum-number-possible-by-doing-at-most-k-swaps/) | [Link](https://practice.geeksforgeeks.org/problems/largest-number-in-k-swaps/0) |
| Print all permutations of a string | [Link](https://www.geeksforgeeks.org/write-a-c-program-to-print-all-permutations-of-a-given-string/) | [Link](https://practice.geeksforgeeks.org/problems/permutations-of-a-given-string/0) |
| Find if there is a path of more than k length from a source | [Link](https://www.geeksforgeeks.org/find-if-there-is-a-path-of-more-than-k-length-from-a-source/) | Link |
| Longest Possible Route in a Matrix with Hurdles | [Link](https://www.geeksforgeeks.org/longest-possible-route-in-a-matrix-with-hurdles/) | Link |
| Print all possible paths from top left to bottom right of a mXn matrix | [Link](https://www.geeksforgeeks.org/print-all-possible-paths-from-top-left-to-bottom-right-of-a-mxn-matrix/) | Link |
| Partition of a set into K subsets with equal sum | [Link](https://www.geeksforgeeks.org/partition-set-k-subsets-equal-sum/) | [Link](https://practice.geeksforgeeks.org/problems/partition-array-to-k-subsets/1) |
| Find the K-th Permutation Sequence of first N natural numbers | [Link](https://www.geeksforgeeks.org/find-the-k-th-permutation-sequence-of-first-n-natural-numbers/) | Link |

**Dynamic Programming**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Coin Change Problem | [Link](https://www.geeksforgeeks.org/coin-change-dp-7/) | [Link](https://practice.geeksforgeeks.org/problems/coin-change2448/1) |
| Knapsack Problem | [Link](https://www.geeksforgeeks.org/0-1-knapsack-problem-dp-10/) | [Link](https://practice.geeksforgeeks.org/problems/0-1-knapsack-problem/0) |
| Binomial Coefficient Problem | [Link](https://www.geeksforgeeks.org/binomial-coefficient-dp-9/) | [Link](https://practice.geeksforgeeks.org/problems/ncr1019/1) |
| Permutation Coefficient Problem | [Link](https://www.geeksforgeeks.org/permutation-coefficient/) | Link |
| Program for nth Catalan Number | [Link](https://www.geeksforgeeks.org/program-nth-catalan-number/) | Link |
| Matrix Chain Multiplication | [Link](https://www.geeksforgeeks.org/matrix-chain-multiplication-dp-8/) | Link |
| Edit Distance | [Link](https://www.geeksforgeeks.org/edit-distance-dp-5/) | [Link](https://practice.geeksforgeeks.org/problems/edit-distance3702/1) |
| Subset Sum Problem | [Link](https://practice.geeksforgeeks.org/problems/subset-sum-problem2014/1) | Link |
| Friends Pairing Problem | [Link](https://www.geeksforgeeks.org/friends-pairing-problem/) | [Link](https://practice.geeksforgeeks.org/problems/friends-pairing-problem5425/1) |
| Gold Mine Problem | [Link](https://www.geeksforgeeks.org/gold-mine-problem/) | Link |
| Assembly Line Scheduling Problem | [Link](https://www.geeksforgeeks.org/assembly-line-scheduling-dp-34/) | Link |
| Painting the Fence problem | [Link](https://www.geeksforgeeks.org/painting-fence-algorithm/) | [Link](https://practice.geeksforgeeks.org/problems/painting-the-fence3727/1) |
| Maximize The Cut Segments | [Link](https://www.geeksforgeeks.org/maximize-the-number-of-segments-of-length-p-q-and-r/) | [Link](https://practice.geeksforgeeks.org/problems/cutted-segments/0) |
| Longest Common Subsequence | [Link](https://www.geeksforgeeks.org/longest-common-subsequence-dp-4/) | [Link](https://practice.geeksforgeeks.org/problems/longest-common-subsequence/0) |
| Longest Repeated Subsequence | [Link](https://www.geeksforgeeks.org/longest-repeated-subsequence/) | [Link](https://practice.geeksforgeeks.org/problems/longest-repeating-subsequence/0) |
| Longest Increasing Subsequence | [Link](https://www.geeksforgeeks.org/longest-increasing-subsequence-dp-3/) | [Link](https://practice.geeksforgeeks.org/problems/longest-increasing-subsequence/0) |
| Space Optimized Solution of LCS | [Link](https://www.geeksforgeeks.org/space-optimized-solution-lcs/) | Link |
| LCS (Longest Common Subsequence) of three strings | [Link](https://www.geeksforgeeks.org/lcs-longest-common-subsequence-three-strings/) | [Link](https://practice.geeksforgeeks.org/problems/lcs-of-three-strings/0) |
| Maximum Sum Increasing Subsequence | [Link](https://www.geeksforgeeks.org/maximum-sum-increasing-subsequence-dp-14/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-sum-increasing-subsequence4749/1) |
| Count all subsequences having product less than K | [Link](https://www.geeksforgeeks.org/count-subsequences-product-less-k/) | Link |
| Longest subsequence such that difference between adjacent is one | [Link](https://www.geeksforgeeks.org/longest-subsequence-such-that-difference-between-adjacents-is-one/) | [Link](https://practice.geeksforgeeks.org/problems/longest-subsequence-such-that-difference-between-adjacents-is-one4724/1) |
| Maximum subsequence sum such that no three are consecutive | [Link](https://www.geeksforgeeks.org/maximum-subsequence-sum-such-that-no-three-are-consecutive/) | Link |
| Egg Dropping Problem | [Link](https://www.geeksforgeeks.org/egg-dropping-puzzle-dp-11/) | [Link](https://practice.geeksforgeeks.org/problems/egg-dropping-puzzle/0) |
| Maximum Length Chain of Pairs | [Link](https://www.geeksforgeeks.org/maximum-length-chain-of-pairs-dp-20/) | [Link](https://practice.geeksforgeeks.org/problems/max-length-chain/1) |
| Maximum size square sub-matrix with all 1s | [Link](https://www.geeksforgeeks.org/maximum-size-sub-matrix-with-all-1s-in-a-binary-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/largest-square-formed-in-a-matrix/0) |
| Maximum sum of pairs with specific difference | [Link](https://www.geeksforgeeks.org/maximum-sum-pairs-specific-difference/) | [Link](https://practice.geeksforgeeks.org/problems/pairs-with-specific-difference/0) |
| Min Cost Path Problem | [Link](https://www.geeksforgeeks.org/min-cost-path-dp-6/) | [Link](https://practice.geeksforgeeks.org/problems/path-in-matrix3805/1) |
| Maximum difference of zeros and ones in binary string | [Link](https://www.geeksforgeeks.org/maximum-difference-zeros-ones-binary-string/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-difference-of-zeros-and-ones-in-binary-string4111/1) |
| Minimum number of jumps to reach end | [Link](https://www.geeksforgeeks.org/minimum-number-of-jumps-to-reach-end-of-a-given-array/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-number-of-jumps/0) |
| Minimum cost to fill given weight in a bag | [Link](https://www.geeksforgeeks.org/minimum-cost-to-fill-given-weight-in-a-bag/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-cost-to-fill-given-weight-in-a-bag1956/1) |
| Minimum removals from array to make max –min <= K | [Link](https://www.geeksforgeeks.org/minimum-removals-array-make-max-min-k/) | Link |
| Longest Common Substring | [Link](https://www.geeksforgeeks.org/longest-common-substring-dp-29/) | [Link](https://practice.geeksforgeeks.org/problems/longest-common-substring/0) |
| Count number of ways to reach a given score in a game | [Link](https://www.geeksforgeeks.org/count-number-ways-reach-given-score-game/) | [Link](https://practice.geeksforgeeks.org/problems/reach-a-given-score/0) |
| Count Balanced Binary Trees of Height h | [Link](https://www.geeksforgeeks.org/count-balanced-binary-trees-height-h/) | [Link](https://practice.geeksforgeeks.org/problems/bbt-counter/0) |
| LargestSum Contiguous Subarray [V>V>V>V IMP ] | [Link](https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/) | [Link](https://practice.geeksforgeeks.org/problems/kadanes-algorithm/0) |
| Smallest sum contiguous subarray | [Link](https://www.geeksforgeeks.org/smallest-sum-contiguous-subarray/) | Link |
| Unbounded Knapsack (Repetition of items allowed) | [Link](https://www.geeksforgeeks.org/unbounded-knapsack-repetition-items-allowed/) | [Link](https://practice.geeksforgeeks.org/problems/knapsack-with-duplicate-items4201/1) |
| Word Break Problem | [Link](https://www.geeksforgeeks.org/word-break-problem-dp-32/) | [Link](https://practice.geeksforgeeks.org/problems/word-break/0) |
| Largest Independent Set Problem | [Link](https://www.geeksforgeeks.org/largest-independent-set-problem-dp-26/) | [Link](https://practice.geeksforgeeks.org/problems/largest-independent-set-problem/1) |
| Partition problem | [Link](https://www.geeksforgeeks.org/partition-problem-dp-18/) | [Link](https://practice.geeksforgeeks.org/problems/subset-sum-problem2014/1) |
| Longest Palindromic Subsequence | [Link](https://www.geeksforgeeks.org/longest-palindromic-subsequence-dp-12/) | [Link](https://practice.geeksforgeeks.org/problems/longest-palindromic-subsequence-1612327878/1/) |
| Count All Palindromic Subsequence in a given String | [Link](https://www.geeksforgeeks.org/count-palindromic-subsequence-given-string/) | [Link](https://practice.geeksforgeeks.org/problems/count-palindromic-subsequences/1) |
| Longest Palindromic Substring | [Link](https://www.geeksforgeeks.org/longest-palindrome-substring-set-1/) | [Link](https://practice.geeksforgeeks.org/problems/longest-palindrome-in-a-string1956/1/) |
| Longest alternating subsequence | [Link](https://www.geeksforgeeks.org/longest-alternating-subsequence/) | [Link](https://practice.geeksforgeeks.org/problems/longest-alternating-subsequence/0) |
| Weighted Job Scheduling | [Link](https://www.geeksforgeeks.org/weighted-job-scheduling/) | Link |
| Coin game winner where every player has three choices | [Link](https://www.geeksforgeeks.org/coin-game-winner-every-player-three-choices/) | Link |
| Count Derangements (Permutation such that no element appears in its original position) [ IMPORTANT ] | [Link](https://www.geeksforgeeks.org/count-derangements-permutation-such-that-no-element-appears-in-its-original-position/) | Link |
| Maximum profit by buying and selling a share at most twice [ IMP ] | [Link](https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-twice/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-profit4657/1) |
| Optimal Strategy for a Game | [Link](https://www.geeksforgeeks.org/optimal-strategy-for-a-game-dp-31/) | [Link](https://practice.geeksforgeeks.org/problems/optimal-strategy-for-a-game/0) |
| Optimal Binary Search Tree | [Link](https://www.geeksforgeeks.org/optimal-binary-search-tree-dp-24/) | [Link](https://practice.geeksforgeeks.org/problems/optimal-binary-search-tree2214/1) |
| Palindrome Partitioning Problem | [Link](https://www.geeksforgeeks.org/palindrome-partitioning-dp-17/) | [Link](https://practice.geeksforgeeks.org/problems/palindromic-patitioning4845/1) |
| Word Wrap Problem | [Link](https://www.geeksforgeeks.org/word-wrap-problem-dp-19/) | [Link](https://practice.geeksforgeeks.org/problems/word-wrap/0) |
| Mobile Numeric Keypad Problem [ IMP ] | [Link](https://www.geeksforgeeks.org/mobile-numeric-keypad-problem/) | [Link](https://practice.geeksforgeeks.org/problems/mobile-numeric-keypad5456/1) |
| Boolean Parenthesization Problem | [Link](https://www.geeksforgeeks.org/boolean-parenthesization-problem-dp-37/) | [Link](https://practice.geeksforgeeks.org/problems/boolean-parenthesization/0) |
| Largest rectangular sub-matrix whose sum is 0 | [Link](https://www.geeksforgeeks.org/largest-rectangular-sub-matrix-whose-sum-0/) | Link |
| Largest area rectangular sub-matrix with equal number of 1’s and 0’s [ IMP ] | [Link](https://www.geeksforgeeks.org/largest-area-rectangular-sub-matrix-equal-number-1s-0s/) | Link |
| Maximum sum rectangle in a 2D matrix | [Link](https://www.geeksforgeeks.org/maximum-sum-rectangle-in-a-2d-matrix-dp-27/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-sum-rectangle/0) |
| Maximum profit by buying and selling a share at most k times | [Link](https://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-k-times/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-profit4657/1) |
| Find if a string is interleaved of two other strings | [Link](https://www.geeksforgeeks.org/find-if-a-string-is-interleaved-of-two-other-strings-dp-33/) | [Link](https://practice.geeksforgeeks.org/problems/interleaved-strings/1) |
| Maximum Length of Pair Chain | [Link](https://www.geeksforgeeks.org/maximum-length-chain-of-pairs-dp-20/) | [Link](https://practice.geeksforgeeks.org/problems/max-length-chain/1/) |

**Stacks and Queues**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Implement Stack from Scratch | [Link](https://www.geeksforgeeks.org/stack-data-structure-introduction-program/) | [Link](https://practice.geeksforgeeks.org/problems/implement-stack-using-array/1) |
| Implement Queue from Scratch | [Link](https://www.geeksforgeeks.org/queue-set-1introduction-and-array-implementation/) | [Link](https://practice.geeksforgeeks.org/problems/implement-queue-using-array/1/) |
| Implement 2 stack in an array | [Link](https://www.geeksforgeeks.org/implement-two-stacks-in-an-array/) | [Link](https://practice.geeksforgeeks.org/problems/implement-two-stacks-in-an-array/1) |
| Find the middle element of a stack | [Link](https://www.geeksforgeeks.org/design-a-stack-with-find-middle-operation/) | Link |
| Implement “N” stacks in an Array | [Link](https://www.geeksforgeeks.org/efficiently-implement-k-stacks-single-array/) | Link |
| Check the expression has valid or Balanced parenthesis or not. | [Link](https://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/) | [Link](https://practice.geeksforgeeks.org/problems/parenthesis-checker/0) |
| Reverse a String using Stack | [Link](https://www.geeksforgeeks.org/reverse-the-sentence-using-stack/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-a-string-using-stack/1) |
| Design a Stack that supports getMin() in O(1) time and O(1) extra space. | [Link](https://www.geeksforgeeks.org/design-a-stack-that-supports-getmin-in-o1-time-and-o1-extra-space/) | [Link](https://practice.geeksforgeeks.org/problems/special-stack/1) |
| Find the next Greater element | [Link](https://www.geeksforgeeks.org/next-greater-element/) | [Link](https://practice.geeksforgeeks.org/problems/next-larger-element/0) |
| The celebrity Problem | [Link](https://www.geeksforgeeks.org/the-celebrity-problem/) | [Link](https://practice.geeksforgeeks.org/problems/the-celebrity-problem/1) |
| Arithmetic Expression evaluation | [Link](https://www.geeksforgeeks.org/arithmetic-expression-evalution/#:~:text=The%20stack%20organization%20is%20very,i.e.%2C%20A%20%2B%20B).) | Link |
| Evaluation of Postfix expression | [Link](https://www.geeksforgeeks.org/stack-set-4-evaluation-postfix-expression/) | [Link](https://practice.geeksforgeeks.org/problems/evaluation-of-postfix-expression/0) |
| Implement a method to insert an element at its bottom without using any other data structure. | [Link](https://www.geeksforgeeks.org/program-to-insert-an-element-at-the-bottom-of-a-stack/) | Link |
| Reverse a stack using recursion | [Link](https://www.geeksforgeeks.org/reverse-a-stack-using-recursion/) | Link |
| Sort a Stack using recursion | [Link](https://www.geeksforgeeks.org/sort-a-stack-using-recursion/) | [Link](https://practice.geeksforgeeks.org/problems/sort-a-stack/1) |
| Merge Overlapping Intervals | [Link](https://www.geeksforgeeks.org/merging-intervals/) | [Link](https://practice.geeksforgeeks.org/problems/overlapping-intervals/0) |
| Largest rectangular Area in Histogram | [Link](https://www.geeksforgeeks.org/largest-rectangle-under-histogram/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-rectangular-area-in-a-histogram/0) |
| Length of the Longest Valid Substring | [Link](https://www.geeksforgeeks.org/length-of-the-longest-valid-substring/) | [Link](https://practice.geeksforgeeks.org/problems/valid-substring0624/1) |
| Expression contains redundant bracket or not | [Link](https://www.geeksforgeeks.org/expression-contains-redundant-bracket-not/) | Link |
| Implement Stack using Queue | [Link](https://www.geeksforgeeks.org/implement-stack-using-queue/) | [Link](https://practice.geeksforgeeks.org/problems/stack-using-two-queues/1) |
| Implement Stack using Deque | [Link](https://www.geeksforgeeks.org/implement-stack-queue-using-deque/) | Link |
| Stack Permutations (Check if an array is stack permutation of other) | [Link](https://www.geeksforgeeks.org/stack-permutations-check-if-an-array-is-stack-permutation-of-other/) | Link |
| Implement Queue using Stack | [Link](https://www.geeksforgeeks.org/queue-using-stacks/) | [Link](https://practice.geeksforgeeks.org/problems/queue-using-two-stacks/1) |
| Implement “n” queue in an array | [Link](https://www.geeksforgeeks.org/efficiently-implement-k-queues-single-array/) | Link |
| Implement a Circular queue | [Link](https://www.geeksforgeeks.org/circular-queue-set-1-introduction-array-implementation/) | Link |
| LRU Cache Implementation | [Link](https://www.geeksforgeeks.org/lru-cache-implementation/) | [Link](https://practice.geeksforgeeks.org/problems/lru-cache/1) |
| Reverse a Queue using recursion | [Link](https://www.geeksforgeeks.org/reversing-a-queue/) | [Link](https://practice.geeksforgeeks.org/problems/queue-reversal/1) |
| Reverse the first “K” elements of a queue | [Link](https://www.geeksforgeeks.org/reversing-first-k-elements-queue/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-first-k-elements-of-queue/1) |
| Interleave the first half of the queue with second half | [Link](https://www.geeksforgeeks.org/interleave-first-half-queue-second-half/) | Link |
| Find the first circular tour that visits all Petrol Pumps | [Link](https://www.geeksforgeeks.org/find-a-tour-that-visits-all-stations/) | [Link](https://practice.geeksforgeeks.org/problems/circular-tour/1) |
| Minimum time required to rot all oranges | [Link](https://www.geeksforgeeks.org/minimum-time-required-so-that-all-oranges-become-rotten/) | [Link](https://practice.geeksforgeeks.org/problems/rotten-oranges/0) |
| Distance of nearest cell having 1 in a binary matrix | [Link](https://www.geeksforgeeks.org/distance-nearest-cell-1-binary-matrix/) | [Link](https://practice.geeksforgeeks.org/problems/distance-of-nearest-cell-having-1/0) |
| First negative integer in every window of size “k” | [Link](https://www.geeksforgeeks.org/first-negative-integer-every-window-size-k/) | [Link](https://practice.geeksforgeeks.org/problems/first-negative-integer-in-every-window-of-size-k/0) |
| Check if all levels of two trees are anagrams or not. | [Link](https://www.geeksforgeeks.org/check-if-all-levels-of-two-trees-are-anagrams-or-not/) | Link |
| Sum of minimum and maximum elements of all subarrays of size “k”. | [Link](https://www.geeksforgeeks.org/sum-minimum-maximum-elements-subarrays-size-k/) | Link |
| Minimum sum of squares of character counts in a given string after removing “k” characters. | [Link](https://www.geeksforgeeks.org/minimum-sum-squares-characters-counts-given-string-removing-k-characters/) | [Link](https://practice.geeksforgeeks.org/problems/game-with-string/0) |
| Queue based approach or first non-repeating character in a stream. | [Link](https://www.geeksforgeeks.org/queue-based-approach-for-first-non-repeating-character-in-a-stream/) | [Link](https://practice.geeksforgeeks.org/problems/first-non-repeating-character-in-a-stream/0) |
| Next Smaller Element | [Link](https://www.geeksforgeeks.org/next-smaller-element/) | Link |

**Binary Trees**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Level order traversal | [Link](https://www.geeksforgeeks.org/level-order-tree-traversal/) | [Link](https://practice.geeksforgeeks.org/problems/level-order-traversal/1) |
| Reverse Level Order traversal | [Link](https://www.geeksforgeeks.org/reverse-level-order-traversal/) | [Link](https://practice.geeksforgeeks.org/problems/reverse-level-order-traversal/1) |
| Height of a tree | [Link](https://www.geeksforgeeks.org/write-a-c-program-to-find-the-maximum-depth-or-height-of-a-tree/) | [Link](https://practice.geeksforgeeks.org/problems/height-of-binary-tree/1) |
| Diameter of a tree | [Link](https://www.geeksforgeeks.org/diameter-of-a-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/diameter-of-binary-tree/1) |
| Mirror of a tree | [Link](https://www.geeksforgeeks.org/create-a-mirror-tree-from-the-given-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/mirror-tree/1) |
| Inorder Traversal of a tree both using recursion and Iteration | [Link](https://www.geeksforgeeks.org/tree-traversals-inorder-preorder-and-postorder/) | Link |
| Preorder Traversal of a tree both using recursion and Iteration | [Link](https://www.geeksforgeeks.org/iterative-preorder-traversal/) | Link |
| Postorder Traversal of a tree both using recursion and Iteration | [Link](https://www.geeksforgeeks.org/tree-traversals-inorder-preorder-and-postorder/) | Link |
| Left View of a tree | [Link](https://www.geeksforgeeks.org/print-left-view-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/left-view-of-binary-tree/1) |
| Right View of Tree | [Link](https://www.geeksforgeeks.org/print-right-view-binary-tree-2/) | [Link](https://practice.geeksforgeeks.org/problems/right-view-of-binary-tree/1) |
| Top View of a tree | [Link](https://www.geeksforgeeks.org/print-nodes-top-view-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/top-view-of-binary-tree/1) |
| Bottom View of a tree | [Link](https://www.geeksforgeeks.org/bottom-view-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/bottom-view-of-binary-tree/1) |
| Zig-Zag traversal of a binary tree | [Link](https://www.geeksforgeeks.org/zigzag-tree-traversal/) | [Link](https://practice.geeksforgeeks.org/problems/zigzag-tree-traversal/1) |
| Check if a tree is balanced or not | [Link](https://www.geeksforgeeks.org/how-to-determine-if-a-binary-tree-is-balanced/) | [Link](https://practice.geeksforgeeks.org/problems/check-for-balanced-tree/1) |
| Diagonal Traversal of a Binary tree | [Link](https://www.geeksforgeeks.org/diagonal-traversal-of-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/diagonal-traversal-of-binary-tree/1) |
| Boundary traversal of a Binary tree | [Link](https://www.geeksforgeeks.org/boundary-traversal-of-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/boundary-traversal-of-binary-tree/1) |
| Construct Binary Tree from String with Bracket Representation | [Link](https://www.geeksforgeeks.org/construct-binary-tree-string-bracket-representation/) | Link |
| Convert Binary tree into Doubly Linked List | [Link](https://www.geeksforgeeks.org/convert-a-given-binary-tree-to-doubly-linked-list-set-2/) | [Link](https://practice.geeksforgeeks.org/problems/binary-tree-to-dll/1) |
| Convert Binary tree into Sum tree | [Link](https://www.geeksforgeeks.org/convert-a-given-tree-to-sum-tree/) | [Link](https://practice.geeksforgeeks.org/problems/transform-to-sum-tree/1) |
| Construct Binary tree from Inorder and preorder traversal | [Link](https://www.geeksforgeeks.org/construct-tree-from-given-inorder-and-preorder-traversal/) | [Link](https://practice.geeksforgeeks.org/problems/construct-tree-1/1) |
| Find minimum swaps required to convert a Binary tree into BST | [Link](https://www.geeksforgeeks.org/minimum-swap-required-convert-binary-tree-binary-search-tree/#:~:text=Given%20the%20array%20representation%20of,it%20into%20Binary%20Search%20Tree.&text=Swap%201%3A%20Swap%20node%208,node%209%20with%20node%2010.) | Link |
| Check if Binary tree is Sum tree or not | [Link](https://www.geeksforgeeks.org/check-if-a-given-binary-tree-is-sumtree/) | [Link](https://practice.geeksforgeeks.org/problems/sum-tree/1) |
| Check if all leaf nodes are at same level or not | [Link](https://www.geeksforgeeks.org/check-leaves-level/) | [Link](https://practice.geeksforgeeks.org/problems/leaf-at-same-level/1) |
| Check if a Binary Tree contains duplicate subtrees of size 2 or more [ IMP ] | [Link](https://www.geeksforgeeks.org/check-binary-tree-contains-duplicate-subtrees-size-2/) | [Link](https://practice.geeksforgeeks.org/problems/duplicate-subtree-in-binary-tree/1) |
| Check if 2 trees are mirror or not | [Link](https://www.geeksforgeeks.org/check-mirror-n-ary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/check-mirror-in-n-ary-tree/0) |
| Sum of Nodes on the Longest path from root to leaf node | [Link](https://www.geeksforgeeks.org/sum-nodes-longest-path-root-leaf-node/) | [Link](https://practice.geeksforgeeks.org/problems/sum-of-the-longest-bloodline-of-a-tree/1) |
| Check if given graph is tree or not.  [ IMP ] | [Link](https://www.geeksforgeeks.org/check-given-graph-tree/#:~:text=Since%20the%20graph%20is%20undirected,graph%20is%20connected%2C%20otherwise%20not.) | Link |
| Find Largest subtree sum in a tree | [Link](https://www.geeksforgeeks.org/find-largest-subtree-sum-tree/) | Link |
| Maximum Sum of nodes in Binary tree such that no two are adjacent | [Link](https://www.geeksforgeeks.org/maximum-sum-nodes-binary-tree-no-two-adjacent/) | [Link](https://practice.geeksforgeeks.org/problems/maximum-sum-of-non-adjacent-nodes/1/) |
| Print all “K” Sum paths in a Binary tree | [Link](https://www.geeksforgeeks.org/print-k-sum-paths-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/k-sum-paths/1) |
| Find LCA in a Binary tree | [Link](https://www.geeksforgeeks.org/lowest-common-ancestor-binary-tree-set-1/) | [Link](https://practice.geeksforgeeks.org/problems/lowest-common-ancestor-in-a-binary-tree/1) |
| Find distance between 2 nodes in a Binary tree | [Link](https://www.geeksforgeeks.org/find-distance-between-two-nodes-of-a-binary-tree/) | [Link](https://practice.geeksforgeeks.org/problems/min-distance-between-two-given-nodes-of-a-binary-tree/1) |
| Kth Ancestor of node in a Binary tree | [Link](https://www.geeksforgeeks.org/kth-ancestor-node-binary-tree-set-2/) | [Link](https://practice.geeksforgeeks.org/problems/kth-ancestor-in-a-tree/1/) |
| Find all Duplicate subtrees in a Binary tree [ IMP ] | [Link](https://www.geeksforgeeks.org/find-duplicate-subtrees/) | [Link](https://practice.geeksforgeeks.org/problems/duplicate-subtrees/1) |
| Tree Isomorphism Problem | [Link](https://www.geeksforgeeks.org/tree-isomorphism-problem/) | [Link](https://practice.geeksforgeeks.org/problems/check-if-tree-is-isomorphic/1) |

**Binary Search Tree**:

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Find a value in a BST | [Link](https://www.geeksforgeeks.org/binary-search-tree-set-1-search-and-insertion/) | Link |
| Deletion of a node in a BST | [Link](https://www.geeksforgeeks.org/binary-search-tree-set-2-delete/) | Link |
| Find min and max value in a BST | [Link](https://www.geeksforgeeks.org/find-the-minimum-element-in-a-binary-search-tree/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-element-in-bst/1) |
| Find inorder successor and inorder predecessor in a BST | [Link](https://www.geeksforgeeks.org/inorder-predecessor-successor-given-key-bst/) | [Link](https://practice.geeksforgeeks.org/problems/predecessor-and-successor/1) |
| Check if a tree is a BST or not | [Link](https://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/) | [Link](https://practice.geeksforgeeks.org/problems/check-for-bst/1) |
| Populate Inorder successor of all nodes | [Link](https://www.geeksforgeeks.org/populate-inorder-successor-for-all-nodes/) | [Link](https://practice.geeksforgeeks.org/problems/populate-inorder-successor-for-all-nodes/1) |
| Find LCA  of 2 nodes in a BST | [Link](https://www.geeksforgeeks.org/lowest-common-ancestor-in-a-binary-search-tree/) | [Link](https://practice.geeksforgeeks.org/problems/lowest-common-ancestor-in-a-bst/1) |
| Construct BST from preorder traversal | [Link](https://www.geeksforgeeks.org/construct-bst-from-given-preorder-traversa/) | Link |
| Convert Binary tree into BST | [Link](https://www.geeksforgeeks.org/binary-tree-to-binary-search-tree-conversion/) | [Link](https://practice.geeksforgeeks.org/problems/binary-tree-to-bst/1) |
| Convert a normal BST into a Balanced BST | [Link](https://www.geeksforgeeks.org/convert-normal-bst-balanced-bst/) | [Link](https://practice.geeksforgeeks.org/problems/normal-bst-to-balanced-bst/1) |
| Merge two BST [ V.V.V>IMP ] | [Link](https://www.geeksforgeeks.org/merge-two-balanced-binary-search-trees/) | [Link](https://practice.geeksforgeeks.org/problems/merge-two-bst-s/1) |
| Find Kth largest element in a BST | [Link](https://www.geeksforgeeks.org/kth-largest-element-in-bst-when-modification-to-bst-is-not-allowed/) | [Link](https://practice.geeksforgeeks.org/problems/kth-largest-element-in-bst/1) |
| Find Kth smallest element in a BST | [Link](https://www.geeksforgeeks.org/find-k-th-smallest-element-in-bst-order-statistics-in-bst/) | [Link](https://practice.geeksforgeeks.org/problems/find-k-th-smallest-element-in-bst/1) |
| Count pairs from 2 BST whose sum is equal to given value “X” | [Link](https://www.geeksforgeeks.org/count-pairs-from-two-bsts-whose-sum-is-equal-to-a-given-value-x/) | [Link](https://practice.geeksforgeeks.org/problems/brothers-from-different-root/1) |
| Find the median of BST in O(n) time and O(1) space | [Link](https://www.geeksforgeeks.org/find-median-bst-time-o1-space/) | [Link](https://practice.geeksforgeeks.org/problems/median-of-bst/1) |
| Count BST nodes that lie in a given range | [Link](https://practice.geeksforgeeks.org/problems/count-bst-nodes-that-lie-in-a-given-range/1) | [Link](https://www.geeksforgeeks.org/count-bst-nodes-that-are-in-a-given-range/) |
| Replace every element with the least greater element on its right | [Link](https://www.geeksforgeeks.org/replace-every-element-with-the-least-greater-element-on-its-right/) | Link |
| Given “n” appointments, find the conflicting appointments | [Link](https://www.geeksforgeeks.org/given-n-appointments-find-conflicting-appointments/) | Link |
| Check preorder is valid or not | [Link](https://www.geeksforgeeks.org/check-if-a-given-array-can-represent-preorder-traversal-of-binary-search-tree/) | [Link](https://practice.geeksforgeeks.org/problems/preorder-to-postorder/0) |
| Check whether BST contains Dead end | [Link](https://www.geeksforgeeks.org/check-whether-bst-contains-dead-end-not/) | [Link](https://practice.geeksforgeeks.org/problems/check-whether-bst-contains-dead-end/1) |
| Largest BST in a Binary Tree [ V.V.V.V.V IMP ] | [Link](https://www.geeksforgeeks.org/find-the-largest-subtree-in-a-tree-that-is-also-a-bst/) | [Link](https://practice.geeksforgeeks.org/problems/largest-bst/1) |
| Flatten BST to sorted list | [Link](https://www.geeksforgeeks.org/flatten-bst-to-sorted-list-increasing-order/) | Link |

**Graphs**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Create a Graph, print it | [Link](https://www.geeksforgeeks.org/graph-and-its-representations/) | Link |
| Implement BFS algorithm | [Link](https://www.geeksforgeeks.org/breadth-first-search-or-bfs-for-a-graph/) | [Link](https://practice.geeksforgeeks.org/problems/bfs-traversal-of-graph/1) |
| Implement DFS Algo | [Link](https://www.geeksforgeeks.org/depth-first-search-or-dfs-for-a-graph/) | Link |
| Detect Cycle in Directed Graph using BFS/DFS Algo | [Link](https://www.geeksforgeeks.org/detect-cycle-in-a-graph/) | Link |
| Detect Cycle in UnDirected Graph using BFS/DFS Algo | [Link](https://www.geeksforgeeks.org/detect-cycle-in-an-undirected-graph-using-bfs/#:~:text=We%20do%20a%20BFS%20traversal,that%20there%20is%20no%20cycle.) | [Link](https://practice.geeksforgeeks.org/problems/detect-cycle-in-an-undirected-graph/1) |
| Search in a Maze | [Link](https://www.geeksforgeeks.org/rat-in-a-maze-backtracking-2/) | [Link](https://practice.geeksforgeeks.org/problems/rat-in-a-maze-problem/1) |
| Minimum Step by Knight | [Link](https://www.geeksforgeeks.org/minimum-steps-reach-target-knight/) | [Link](https://practice.geeksforgeeks.org/problems/steps-by-knight/0) |
| Flood fill algo | [Link](https://www.geeksforgeeks.org/flood-fill-algorithm-implement-fill-paint/) | [Link](https://practice.geeksforgeeks.org/problems/flood-fill-algorithm1856/0/?category%5b%5d=Matrix&page=1&sortBy=accuracy&query=category%5b%5dMatrixpage1sortByaccuracy) |
| Clone a graph | [Link](https://www.geeksforgeeks.org/clone-an-undirected-graph/) | Link |
| Making wired Connections | [Link](https://www.geeksforgeeks.org/minimize-count-of-connections-required-to-be-rearranged-to-make-all-the-computers-connected/) | Link |
| Word Ladder | [Link](https://www.geeksforgeeks.org/word-ladder-length-of-shortest-chain-to-reach-a-target-word/) | [Link](https://practice.geeksforgeeks.org/problems/word-ladder/0/?category%5b%5d=BFS&page=1&query=category%5b%5dBFSpage1) |
| Dijkstra algo | [Link](https://www.geeksforgeeks.org/dijkstras-shortest-path-algorithm-greedy-algo-7/) | [Link](https://practice.geeksforgeeks.org/problems/implementing-dijkstra-set-1-adjacency-matrix/1/) |
| Implement Topological Sort | [Link](https://www.geeksforgeeks.org/topological-sorting/) | [Link](https://practice.geeksforgeeks.org/problems/topological-sort/1) |
| Minimum time taken by each job to be completed given by a Directed Acyclic Graph | [Link](https://www.geeksforgeeks.org/minimum-time-taken-by-each-job-to-be-completed-given-by-a-directed-acyclic-graph/) | Link |
| Find whether it is possible to finish all tasks or not from given dependencies | [Link](https://www.geeksforgeeks.org/find-whether-it-is-possible-to-finish-all-tasks-or-not-from-given-dependencies/) | Link |
| Find the no. of Islands | [Link](https://www.geeksforgeeks.org/find-number-of-islands/) | [Link](https://practice.geeksforgeeks.org/problems/find-the-number-of-islands/1) |
| Given a sorted Dictionary of an Alien Language, find order of characters | [Link](https://www.geeksforgeeks.org/given-sorted-dictionary-find-precedence-characters/) | [Link](https://practice.geeksforgeeks.org/problems/alien-dictionary/1) |
| Implement Kruksal’sAlgorithm | [Link](https://www.geeksforgeeks.org/kruskals-minimum-spanning-tree-algorithm-greedy-algo-2/) | Link |
| Implement Prim’s Algorithm | [Link](https://www.geeksforgeeks.org/prims-minimum-spanning-tree-mst-greedy-algo-5/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-spanning-tree/1/) |
| Total no. of Spanning tree in a graph | [Link](https://www.geeksforgeeks.org/total-number-spanning-trees-graph/) | Link |
| Implement Bellman Ford Algorithm | [Link](https://www.geeksforgeeks.org/bellman-ford-algorithm-dp-23/) | [Link](https://practice.geeksforgeeks.org/problems/negative-weight-cycle/0) |
| Implement Floyd warshall Algorithm | [Link](https://www.geeksforgeeks.org/floyd-warshall-algorithm-dp-16/) | [Link](https://practice.geeksforgeeks.org/problems/implementing-floyd-warshall/0) |
| Travelling Salesman Problem | [Link](https://www.geeksforgeeks.org/travelling-salesman-problem-set-1/) | [Link](https://practice.geeksforgeeks.org/problems/travelling-salesman-problem/0) |
| Graph Colouring Problem | [Link](https://www.geeksforgeeks.org/graph-coloring-applications/#:~:text=Graph%20coloring%20problem%20is%20to,are%20colored%20using%20same%20color.) | Link |
| Snake and Ladders Problem | [Link](https://www.geeksforgeeks.org/snake-ladder-problem-2/) | [Link](https://practice.geeksforgeeks.org/problems/snake-and-ladder-problem4816/1) |
| Find bridge in a graph | [Link](https://www.geeksforgeeks.org/bridge-in-a-graph/) | [Link](https://practice.geeksforgeeks.org/problems/bridge-edge-in-graph/1) |
| Count Strongly connected Components(Kosaraju Algo) | [Link](https://www.geeksforgeeks.org/strongly-connected-components/) | [Link](https://practice.geeksforgeeks.org/problems/strongly-connected-components-kosarajus-algo/1) |
| Check whether a graph is Bipartite or Not | [Link](https://www.geeksforgeeks.org/bipartite-graph/) | [Link](https://practice.geeksforgeeks.org/problems/bipartite-graph/1) |
| Detect Negative cycle in a graph | [Link](https://www.geeksforgeeks.org/detect-negative-cycle-graph-bellman-ford/) | Link |
| Longest path in a Directed Acyclic Graph | [Link](https://www.geeksforgeeks.org/find-longest-path-directed-acyclic-graph/) | Link |
| Journey to the Moon | Link | [Link](https://www.hackerrank.com/challenges/journey-to-the-moon/problem) |
| Cheapest Flights Within K Stops | [Link](https://www.geeksforgeeks.org/shortest-path-exactly-k-edges-directed-weighted-graph/) | [Link](https://leetcode.com/problems/cheapest-flights-within-k-stops/description/) |
| Oliver and the Game | Link | [Link](https://www.hackerearth.com/practice/algorithms/graphs/topological-sort/practice-problems/algorithm/oliver-and-the-game-3/) |
| Water Jug problem using BFS | [Link](https://www.geeksforgeeks.org/water-jug-problem-using-bfs/) | Link |
| Find if there is a path of more thank length from a source | [Link](https://www.geeksforgeeks.org/find-if-there-is-a-path-of-more-than-k-length-from-a-source/) | Link |
| M-Colouring Problem | [Link](https://www.geeksforgeeks.org/m-coloring-problem-backtracking-5/) | [Link](https://practice.geeksforgeeks.org/problems/m-coloring-problem/0) |
| Minimum edges to reverse to make path from source to destination | [Link](https://www.geeksforgeeks.org/minimum-edges-reverse-make-path-source-destination/) | Link |
| Paths to travel each nodes using each edge(Seven Bridges) | [Link](https://www.geeksforgeeks.org/paths-travel-nodes-using-edgeseven-bridges-konigsberg/) | Link |
| Vertex Cover Problem | [Link](https://www.geeksforgeeks.org/vertex-cover-problem-set-1-introduction-approximate-algorithm-2/) | Link |
| Chinese Postman or Route Inspection | [Link](https://www.geeksforgeeks.org/chinese-postman-route-inspection-set-1-introduction/) | Link |
| Number of Triangles in a Directed and Undirected Graph | [Link](https://www.geeksforgeeks.org/number-of-triangles-in-directed-and-undirected-graphs/) | Link |
| Minimise the cashflow among a given set of friends who have borrowed money from each other | [Link](https://www.geeksforgeeks.org/minimize-cash-flow-among-given-set-friends-borrowed-money/) | Link |
| Two Clique Problem | [Link](https://www.geeksforgeeks.org/two-clique-problem-check-graph-can-divided-two-cliques/) | Link |

**Heap**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Implement a Maxheap/MinHeap using arrays and recursion. | [Link](https://www.geeksforgeeks.org/building-heap-from-array/) | Link |
| Sort an Array using heap. (HeapSort) | [Link](https://www.geeksforgeeks.org/heap-sort/) | Link |
| Maximum of all subarrays of size k. | [Link](https://www.geeksforgeeks.org/sliding-window-maximum-maximum-of-all-subarrays-of-size-k/) | Link |
| “K” largest element in an array | [Link](https://www.geeksforgeeks.org/k-largestor-smallest-elements-in-an-array/) | [Link](https://practice.geeksforgeeks.org/problems/k-largest-elements4206/1) |
| Kth smallest and largest element in an unsorted array | [Link](https://www.geeksforgeeks.org/kth-smallestlargest-element-unsorted-array/) | Link |
| Merge “K” sorted arrays. [ IMP ] | [Link](https://www.geeksforgeeks.org/merge-k-sorted-arrays/) | [Link](https://practice.geeksforgeeks.org/problems/merge-k-sorted-arrays/1) |
| Merge 2 Binary Max Heaps | [Link](https://www.geeksforgeeks.org/merge-two-binary-max-heaps/) | [Link](https://practice.geeksforgeeks.org/problems/merge-two-binary-max-heap/0) |
| Kth largest sum continuous subarrays | [Link](https://www.geeksforgeeks.org/k-th-largest-sum-contiguous-subarray/) | Link |
| Leetcode- reorganize strings | [Link](https://www.geeksforgeeks.org/rearrange-characters-string-no-two-adjacent/) | Link |
| Merge “K” Sorted Linked Lists [V.IMP] | [Link](https://www.geeksforgeeks.org/merge-k-sorted-linked-lists/) | [Link](https://practice.geeksforgeeks.org/problems/merge-k-sorted-linked-lists/1) |
| Smallest range in “K” Lists | [Link](https://www.geeksforgeeks.org/find-smallest-range-containing-elements-from-k-lists/) | [Link](https://practice.geeksforgeeks.org/problems/find-smallest-range-containing-elements-from-k-lists/1) |
| Median in a stream of Integers | [Link](https://www.geeksforgeeks.org/median-of-stream-of-integers-running-integers/) | [Link](https://practice.geeksforgeeks.org/problems/find-median-in-a-stream/0) |
| Check if a Binary Tree is Heap | [Link](https://www.geeksforgeeks.org/check-if-a-given-binary-tree-is-heap/) | [Link](https://practice.geeksforgeeks.org/problems/is-binary-tree-heap/1) |
| Connect “n” ropes with minimum cost | [Link](https://www.geeksforgeeks.org/connect-n-ropes-minimum-cost/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-cost-of-ropes/0) |
| Convert BST to Min Heap | [Link](https://www.geeksforgeeks.org/convert-bst-min-heap/) | Link |
| Convert min heap to max heap | [Link](https://www.geeksforgeeks.org/convert-min-heap-to-max-heap/) | Link |
| Rearrange characters in a string such that no two adjacent are same. | [Link](https://www.geeksforgeeks.org/rearrange-characters-string-no-two-adjacent/) | [Link](https://practice.geeksforgeeks.org/problems/rearrange-characters/0) |
| Minimum sum of two numbers formed from digits of an array | [Link](https://www.geeksforgeeks.org/minimum-sum-two-numbers-formed-digits-array/) | [Link](https://practice.geeksforgeeks.org/problems/minimum-sum4058/1) |

**Trie**

| **Question** | **Article** | **Practice** |
| --- | --- | --- |
| Construct a trie from scratch | [Link](https://www.geeksforgeeks.org/trie-insert-and-search/) | Link |
| Find shortest unique prefix for every word in a given list | [Link](https://www.geeksforgeeks.org/find-all-shortest-unique-prefixes-to-represent-each-word-in-a-given-list/) | Link |
| Word Break Problem | (Trie solution) | [Link](https://www.geeksforgeeks.org/word-break-problem-trie-solution/) | Link |
| Given a sequence of words, print all anagrams together | [Link](https://www.geeksforgeeks.org/given-a-sequence-of-words-print-all-anagrams-together-set-2/) | [Link](https://practice.geeksforgeeks.org/problems/k-anagrams-1/0) |
| Implement a Phone Directory | [Link](https://www.geeksforgeeks.org/implement-a-phone-directory/#:~:text=Phone%20Directory%20can%20be%20efficiently,each%20prefix%20of%20'str'.) | [Link](https://practice.geeksforgeeks.org/problems/phone-directory/0) |
| Print unique rows in a given boolean matrix | [Link](https://www.geeksforgeeks.org/print-unique-rows/) | [Link](https://practice.geeksforgeeks.org/problems/unique-rows-in-boolean-matrix/1) |