PART-1

DATA STRUCTURES

MUST-DO CODING PROBLEMS [TOPIC-WISE]

TOPICS COVERED-

- **MATHS**
- **ARRAYS**
- **SEARCHING**
- **SORTING**
- **MATRIX**
- **STRING**
- **HASHING**
- **BITMAGIC**
- **LINKED LIST**
- **STACK**
- **QUEUE**

- **HEAP**
- **BST**
- **GRAPH**
- **TRIE**
- **GREEDY**
- **DYNAMIC PROGRAMMING**
- **RECURSION**
- **BACKTRACKING**
- **ALGORITHMS**
- **DESIGN**

MUST JOIN TELEGRAM CHANNEL FOR UPCOMING PART-2

LINK- https://t.me/engnr_notes

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MATHS-IMPORTANT QUESTIONS

YOU CAN REFER THESE NOTES- https://t.me/engnr_notes/43

ATTEMPT ALL THE PROBLEMS ORDER-WISE

- **Missing number in array :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/MD-Math/problem/missing-number-in-array1416

- **Trailing zeroes in factorial :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/MD-Math/problem/trailing-zeroes-in-factorial5134

- **A Simple Fraction:**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/MD-Math/problem/a-simple-fraction0921

- **Nth Natural Number :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/MD-Math/problem/nth-natural-number

- **Smallest Positive Integer that can not be represented as Sum :** https://practice.geeksforgeeks.org/batch/must-do-1/track/MD-Math/problem/b6b608d4eb1c45f2b5cace77c4914f302ff0f80d

ARRAYS-IMPORTANT QUESTIONS

YOU CAN REFER THESE NOTES- https://t.me/engnr_notes/43

- **Equilibrium Point :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/equilibrium-point-1587115620

- **Leaders in an array:**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/leaders-in-an-array-1587115620

- **Subarray with given sum :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/subarray-with-given-sum-1587115621

- **Sort an array of 0s, 1s and 2s :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/sort-an-array-of-0s-1s-and-2s4231

- **Rearrange Array Alternately :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/-rearrange-array-alternately-1587115620

- **Rotate Array :** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/rotate-array-by-n-elements-1587115621

- **Majority Element :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/majority-element-1587115620

- **Plus One:** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/plus-one

- **Alternate positive and negative numbers :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/array-of-alternate-ve-and-ve-nos1401

- **Product array puzzle :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/product-array-puzzle4525

- **Frequencies of Limited Range Array Elements :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/frequency-of-array-elements-1587115620

- **Large Factorial:**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/large-factorial4721

- **Jump Game:** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/jump-game

- **Maximize Number of 1's:**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/maximize-number-of-1s0905

- **Stock buy and sell:**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/stock-buy-and-sell-1587115621

- **Longest consecutive subsequence :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/longest-consecutive-subsequence2449

- **Maximum value of difference of a pair of elements and their Index:** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/maximum-value-of-difference-of-a-pair-of-elements-and-their-index

- **Maximum Index :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/maximum-index-1587115620

- **K-th element of two sorted Arrays :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/k-th-element-of-two-sorted-array1317

- **Trapping Rain Water :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/trapping-rain-water-1587115621

- **Three Sum Closest :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/three-sum-closest

- **Max Circular Subarray Sum :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/max-circular-subarray-sum-1587115620

- **Merge Without Extra Space :**

  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-arrays/problem/merge-two-sorted-arrays5135

ATTEMPT ALL THE PROBLEMS ORDER-WISE

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PART-1

SEARCHING-IMPORTANT PROBLEMS

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- **Binary Search :** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/binary-search-1587115620

- **Search insert position of K in a sorted array :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/search-insert-position-of-k-in-a-sorted-array

- **Binary Search in forest :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/ffd66b6a0bf7cefb9987fa455974b6ea5695709e

- **Left most and right most index :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/find-first-and-last-occurrence-of-x0849

- **Bitonic Point :** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/maximum-value-in-a-bitonic-array3001

- **Search an element in sorted and rotated array :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/search-in-a-rotated-array0959

- **Square root of a number :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/square-root

- **Find missing in second array :**
  https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/in-first-but-second5423

➢ **The Painter's Partition Problem-II :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/the-painters-partition-problem1535

➢ **Median of 2 Sorted Arrays of Different Sizes :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/median-of-2-sorted-arrays-of-different-sizes

➢ **Inorder Traversal :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/inorder-traversal

➢ **Allocate minimum number of pages :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-searching/problem/allocate-minimum-number-of-pages0937

SORTING-IMPORTANT PROBLEMS

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➢ **Wave Array :** https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/wave-array-1587115621

➢ **Count the number of possible triangles :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/count-possible-triangles-1587115620

➢ **Triplets with sum with given range :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/triplets-with-sum-with-given-range

➢ **Count Inversions :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/inversion-of-array-1587115620

> **Sort an array according to the other :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/relative-sorting4323

> **Minimum Platforms :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/minimum-platforms-1587115620

> **Maximum Index :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/maximum-index3307

> **Number of pairs :**

https://practice.geeksforgeeks.org/batch/must-do-1/track/md-sorting/problem/number-of-pairs-1587115620

Thank You !

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