#### **Tracks to practice before Class-4:**

- Introduction
- Mathematics
- Recursion
- Arrays
- Searching
- Sorting
- Matrix
- Hashing

## Imp. Articles:

- <a href="https://www.geeksforgeeks.org/understanding-time-complexity-simple-examples/">https://www.geeksforgeeks.org/understanding-time-complexity-simple-examples/</a>
- <a href="https://www.hackerearth.com/practice/basic-programming/complexity-analysis/time-a">https://www.hackerearth.com/practice/basic-programming/complexity-analysis/time-a</a> <a href="nd-space-complexity/tutorial/">nd-space-complexity/tutorial/</a>
- <a href="https://www.geeksforgeeks.org/how-do-dynamic-arrays-work/">https://www.geeksforgeeks.org/how-do-dynamic-arrays-work/</a>
- <a href="https://www.geeksforgeeks.org/prefix-sum-array-implementation-applications-competitive-programming/">https://www.geeksforgeeks.org/prefix-sum-array-implementation-applications-competitive-programming/</a>
- https://www.geeksforgeeks.org/recursion/
- https://www.geeksforgeeks.org/hashing-set-1-introduction/
- <a href="https://www.geeksforgeeks.org/index-mapping-or-trivial-hashing-with-negatives-allowed/">https://www.geeksforgeeks.org/index-mapping-or-trivial-hashing-with-negatives-allowed/</a>
- https://www.geeksforgeeks.org/hashing-set-2-separate-chaining/
- https://www.geeksforgeeks.org/hashing-set-3-open-addressing/
- https://www.geeksforgeeks.org/double-hashing/

## Imp Problems:

- Maths:
  - https://www.geeksforgeeks.org/sieve-of-eratosthenes/
  - https://www.geeksforgeeks.org/count-divisors-n-on13/
  - https://www.geeksforgeeks.org/euclidean-algorithms-basic-and-extended/
  - https://www.geeksforgeeks.org/modular-exponentiation-power-in-modular-arit hmetic/

#### - Arrays:

- https://www.geeksforgeeks.org/write-a-program-to-reverse-an-array-or-string/
- <a href="https://www.geeksforgeeks.org/program-for-array-rotation-continued-reversal-algorithm/">https://www.geeksforgeeks.org/program-for-array-rotation-continued-reversal-algorithm/</a>
- https://www.geeksforgeeks.org/maximum-difference-between-two-elements/
- <a href="https://www.geeksforgeeks.org/length-of-the-longest-alternating-even-odd-subarray/">https://www.geeksforgeeks.org/length-of-the-longest-alternating-even-odd-subarray/</a>
- https://www.geeksforgeeks.org/painters-partition-problem/
- https://www.geeksforgeeks.org/count-distinct-elements-in-an-array/

# - Recursion:

- <a href="https://www.geeksforgeeks.org/print-all-combinations-of-given-length/">https://www.geeksforgeeks.org/print-all-combinations-of-given-length/</a>
- <a href="https://www.geeksforgeeks.org/given-a-string-print-all-possible-palindromic-pa">https://www.geeksforgeeks.org/given-a-string-print-all-possible-palindromic-pa</a> <a href="rtition/">rtition/</a>
- <a href="https://www.geeksforgeeks.org/factorial-of-large-numbers-using-logarithmic-id">https://www.geeksforgeeks.org/factorial-of-large-numbers-using-logarithmic-id</a> <a href="entity/">entity/</a>
- https://www.geeksforgeeks.org/recursion/

## - Hashing:

- https://www.geeksforgeeks.org/find-if-there-is-a-subarray-with-0-sum/
- <a href="https://www.geeksforgeeks.org/find-subarray-with-given-sum/">https://www.geeksforgeeks.org/find-subarray-with-given-sum/</a>
- https://www.geeksforgeeks.org/number-subarrays-sum-exactly-equal-k/
- https://www.geeksforgeeks.org/find-union-and-intersection-of-two-unsorted-ar rays/
- <a href="https://www.interviewbit.com/problems/anagrams/">https://www.interviewbit.com/problems/anagrams/</a>
- <a href="https://www.interviewbit.com/problems/subarray-with-b-odd-numbers/">https://www.interviewbit.com/problems/subarray-with-b-odd-numbers/</a>
- https://www.interviewbit.com/problems/longest-substring-without-repeat/
- https://www.interviewbit.com/problems/window-string/