CICSOFT

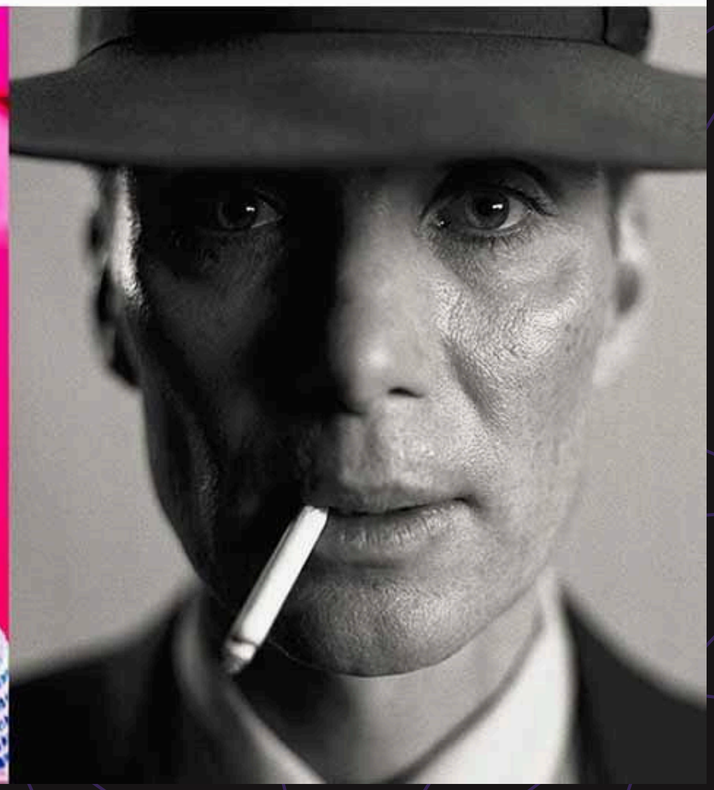
WELCOME to

HACKBITS

Starts at 7:05PM

HR interview

Technical interview




THE TECHNICAL INTERVIEW
THE ACTUAL JOB

LeetCode Explore Problems Interview New Contest Discuss

Description Solution Discuss (999+) Subm

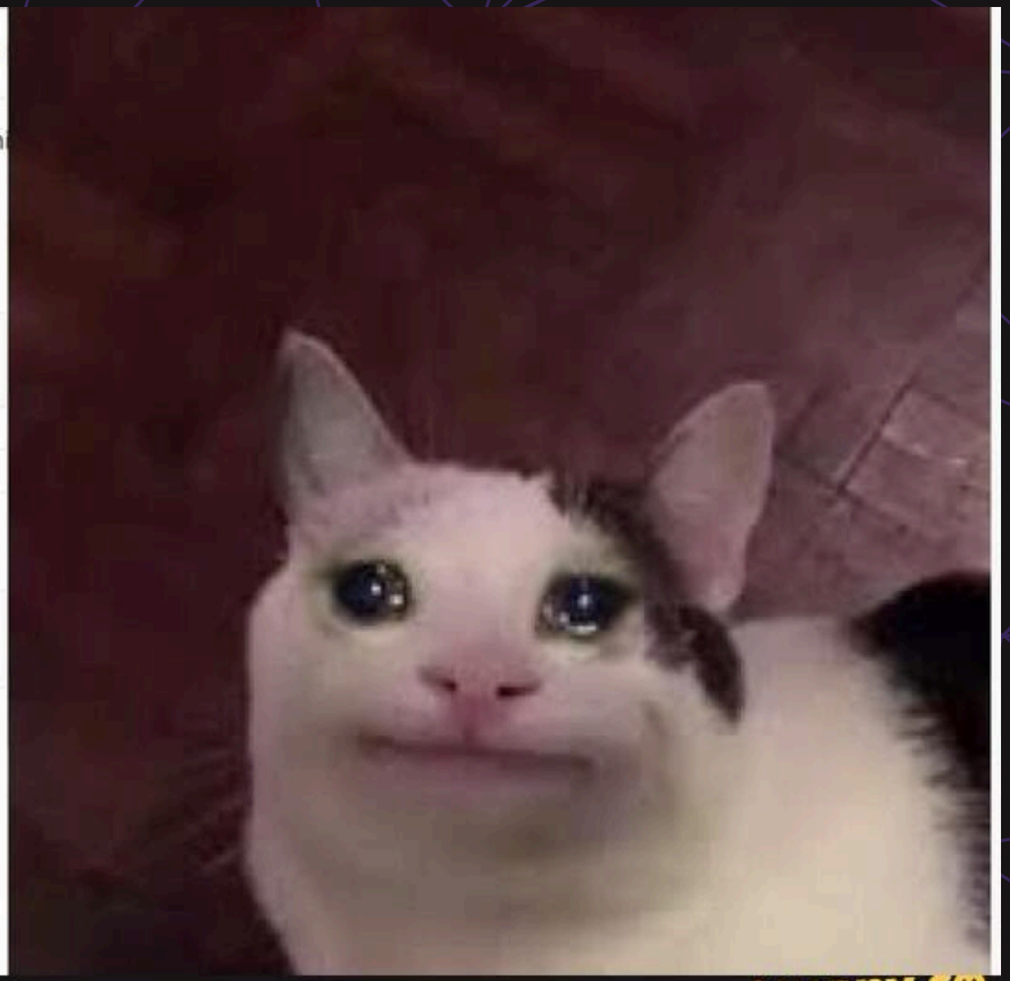
Time Limit Exceeded Details >

Last executed input

```
"nanny"
"aloud"
```

Time Submitted	Status	Runtime	Memory
08/09/2022 10:39	Time Limit Exceeded	N/A	N/A

Time Limit Exceeded



TECHNICAL INTERVIEWS?

LEETCODE?

PATTERNS ARE REPEATABLE, GENERAL STRATEGIES OR APPROACHES TO SOLVING COMMON TYPES OF PROBLEMS IN CODING INTERVIEWS.

- TWO POINTER
- SLIDING WINDOW
- BACKTRACKING

...AND A HELL OF A LOT MORE

WHY PATTERNS?

- They help solve problems faster by recognizing the structure of the problem and applying a proven approach.

- Once you learn a pattern, you can apply it to multiple problems with minor adjustments, rather than starting from scratch each time.

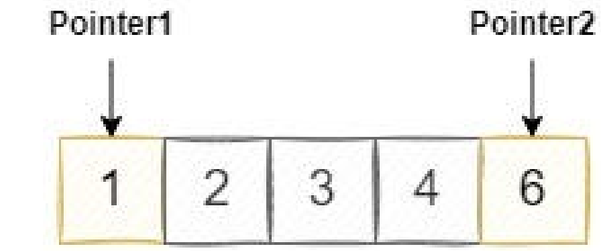
TWO POINTERS

- **A strategy where two pointers (or indices) are used to traverse a data structure (often an array or list), typically starting from opposite ends or at strategic positions.**
- **Advantage:** Often reduces time complexity from $O(n^2)$ (using nested loops) to $O(n)$, making it an optimal solution for problems with pairs or subsets.

HOW DO YOU IDENTIFY TWO POINTERS?

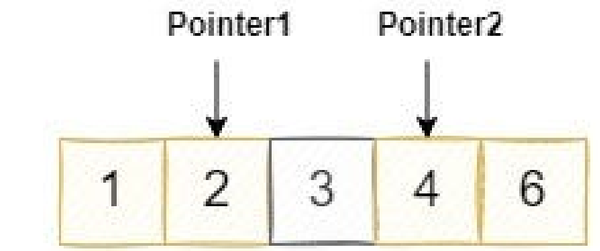
- Finding pairs or triplets that meet a specific condition (e.g., sum to a target).
- Reversing arrays or strings.
- Removing duplicates from sorted arrays.
- Checking for palindromes.

Target sum = 6



1 + 6 > target sum, decrement Pointer2

1 + 4 < target sum, increment Pointer1



2 + 4 == target sum, we have found a pair!

SLIDING WINDOW

- **A strategy used to solve problems involving a contiguous subarray or substring, where you maintain a "window" that slides across the data structure, adjusting its size or elements as needed.**

- **Types of Sliding Windows:**
  - Fixed-size window: Used when the size of the subarray/substring is constant (e.g., maximum sum of subarray of size k).

  - Variable-size window: Used when the window's size changes dynamically based on conditions (e.g., longest substring without repeating characters).

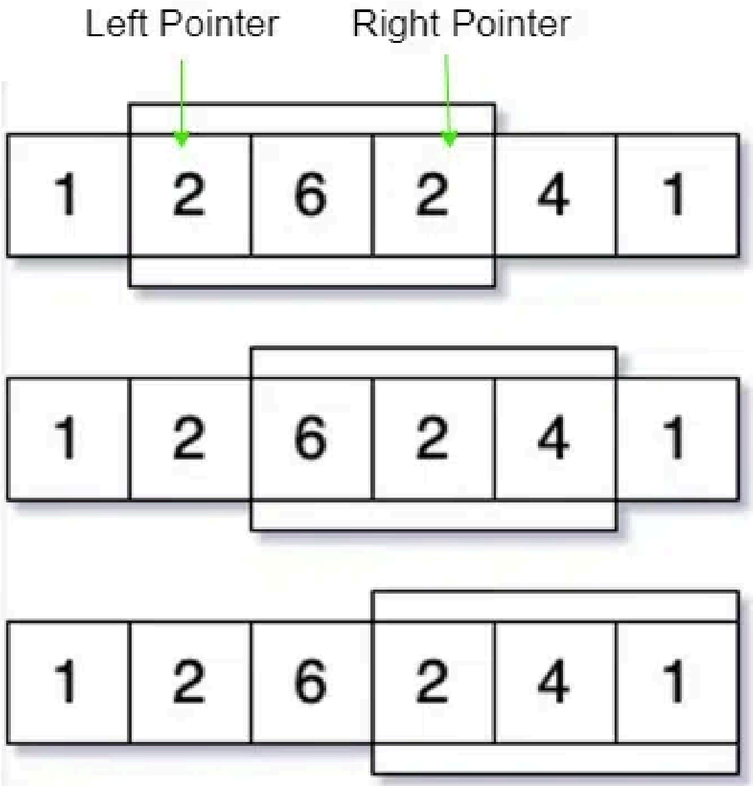
SLIDING WINDOW

- Instead of recalculating sums or conditions for each subarray, the sliding window approach enables you to adjust the window dynamically by adding/removing elements as the window slides.

- Reduces the time complexity of problems that would normally require nested loops ($O(n^2)$) to a linear time $O(n)$, making it highly efficient.

- **Use Cases**: Useful in problems involving contiguous sequences such as:
  - Maximum sum of subarrays.
  - Finding the longest substring with unique characters.
  - Minimum subarray length that meets a condition.

SLIDING WINDOW



Sliding window Technique

LIVE CODING

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HACKERRANK

INSERT BARCODE HERE

CODEFORCES

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CICSOFT

RESOURCE HUB

CICSOFT

WRITE US FEEDBACK THROUGH OUR WEBSITE

OPEN TO SUGGESTIONS FOR EVENTS

CICSOFT

THANK YOU

JOIN US and bring your friends :)

EVERY **MONDAY 7:00 PM** AT **ILC S231**

Feedback

Resource GitHub

IF YOU ALREADY HAVEN'T

THANKS FOR ATTENDING!

SEE YOU NEXT MONDAY.