DATA STRUCTURES CONTENT

WEEK 1–2 FULL PLAN: Arrays & Strings

Goal:

- Master 2-pointer, sliding window, prefix sum, brute force to optimized
- Solve 30+ problems across easy → medium → hard
- Build speed & reflex for string/array-based questions

WEEK 1: Arrays Mastery (Days 1–7)

Days	Topic	What to Learn Problems	(Solve in order)
1.	Array Basics + Traversal	Declaring, traversing, sum, max/min	1. Reverse array 2. Find max/min 3. Sum of elements
2.	Two-Pointer 101	Start-end pointer, swap, shrink, expand	1. Check if array is palindrome 2. Sort 0s 1s 3. Move zeros to end
3.	Prefix Sum & Running Sum	Cumulative sum + subarray sum	1. Prefix sum array 2. Subarray sum equals K 3. Max subarray sum
4.	Sliding Window	Fixed-size window, variable window	1. Max sum of subarray size K 2. Min size subarray sum ≥ target 3. Longest subarray with sum K
5.	Searching + Binary Search on Arrays	Search logic + conditions	1. Binary search 2. First and last position of element 3. Find peak element
6.	Sorting + Deduplication	Sort logic + frequency	1. Remove duplicates 2. Merge two sorted arrays Count 3. frequency of all elements

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7.	Mini Contest + Review	Solve under time & review mistakes	1. Rotate array (right by k) 2. Find missing number in range 1 to n 3. Recap what confused you this week

WEEK 2: Strings Mastery (Days 8–14)

Days	Topic	What to Learn Problems	(Solve in order)
1.	String Basics	Traversal, char check, reverse	1. Reverse string 2. Palindrome check 3. Count vowels/consonants
2.	Frequency Map + Anagram Count	letters + comparison	1. Valid Anagram 2. Group Anagrams 3. First non-repeating char
3.	Two-Pointer for Strings	Substrings & comparison	1. Valid Palindrome (ignore non-alpha) 2. Remove duplicates from string 3. Check rotation of string
4.	Sliding Window (Strings)	Longest substring, unique, match	1. Longest substring w/o repeating chars 2. Find all anagrams in string 3. Smallest window containing all chars
5.	Pattern Matching	Substring search + pattern check	1. Implement strstr() 2. Count occurrences of a word 3. Regex-style match (optional)
6.	Advanced Practice	Combine patterns	1. Longest prefix suffix 2. Longest palindromic substring 3. Decode ways (optional)

DATA STRUCTURES CONTENT

7.	Review + Contest	Timed mini-contest + reflection	1. String compression 2. Isomorphic strings 3. Recap flashcards & errors

Each day:

1. 90 min focus session
2. 3 problems
3. 15 min review/notes/flash card
4. Mark any mistakes for future revision