■ DSA Test – Arrays & Strings

Instructions:

1. Write the approach on your copy before coding.
2. Perform dry run on all 4 examples.
3. Write C++ code and run on the given examples.
4. A question is considered done only if you complete all 3 steps.

Q1. Rearrange Array Alternately (Medium)

Rearrange the array in such a way that the first element is the maximum value, the second is the minimum, the third is the second maximum, and so on.

Input	Output
arr = [1, 2, 3, 4, 5, 6, 7]	[7, 1, 6, 2, 5, 3, 4]
arr = [10, 20, 30, 40, 50]	[50, 10, 40, 20, 30]
arr = [5, 5, 5]	[5, 5, 5]
arr = [9, 1]	[9, 1]

Q2. Subarray with Given Sum (Medium)

Find the continuous subarray that adds up to a given sum. If multiple subarrays exist, print the first one.

Input	Output
arr = [1, 4, 20, 3, 10, 5], sum = 33	[20, 3, 10]
arr = [1, 2, 3, 7, 5], sum = 12	[2, 3, 7]
arr = [1, 2, 3, 4, 5], sum = 9	[2, 3, 4]
arr = [1, 2, 3], sum = 7	Not Found

Q3. Longest Word in a String (Medium)

Write a function to find the longest word in a given string. If multiple words have the same length, print the first one.

Input	Output
s = "I love programming"	programming
s = "C++ Java Python"	Python
s = "hello world"	hello
s = "open ai chat"	open

Q4. Check if Two Strings are Anagrams (Medium)

Write a function to check whether two strings are anagrams of each other. Two strings are anagrams if they contain the same characters in any order. Ignore case and spaces.

Input	Output
s1 = "listen", s2 = "silent"	Anagram
s1 = "hello", s2 = "world"	Not Anagram
s1 = "Dormitory", s2 = "Dirty room"	Anagram
s1 = "keep", s2 = "peek"	Anagram