

Instructions:

1. Solve any three questions.
2. Input should be from user.
3. Indentation and comments mandatory.
4. All questions solving in C# language.

Q1. Rearrange Positive and Negative Numbers in Alternating Fashion.

Problem: Given an array of positive and negative integers, rearrange them so that they alternate. The order of positive and negative numbers should be maintained.

Input: arr = {1, -2, 3, -4, -1, 4}

Output: {-2, 1, -4, 3, -1, 4}

Q2. Find the Smallest Window in a String Containing All Characters of Another String.

Problem: Given a string s and a string t, find the smallest substring in s that contains all characters of t.

Input: s = "ADOBECODEBANC", t = "ABC"

Output: "BANC"

Q3. Merge Two Sorted Arrays Without Extra Space.

Problem: Given two sorted arrays, merge them into one sorted array in place without using extra space.

Input: arr1 = {1, 3, 5}, arr2 = {2, 4, 6}

Output: arr1 = {1, 2, 3}, arr2 = {4, 5, 6}

Q4. Reverse Each Word in a Sentence.

Problem: Write a method to reverse each word in a given sentence, keeping the word order the same.

Input: "Hello World"

Output: "olleH dlroW"