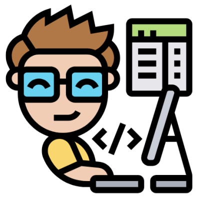

DAILY PROGRAMMING
CHALLENGE

WISDOM SPROUTS
IT Training Hub

Merge Two Sorted Arrays

You are given two sorted arrays arr1 of size m and arr2 of size n. Your task is to merge these two arrays into a single sorted array without using any extra space (i.e., in-place merging). The elements in arr1 should be merged first, followed by the elements of arr2, resulting in both arrays being sorted after the merge.

Input:
Two sorted integer arrays arr1 of size m and arr2 of size n.
Example :
arr1 = [1, 3, 5, 7]
arr2 = [2, 4, 6, 8]

Output:
Both arr1 and arr2 should be sorted after the merge. Since you cannot use extra space, the final result will be reflected in arr1 and arr2.
Example:
arr1 = [1, 2, 3, 4]
arr2 = [5, 6, 7, 8]

Constraints:
- The arrays are sorted in non-decreasing order.
- You must not use any extra space beyond a few variables (O(1) space complexity).
- 1 ≤ m, n ≤ 10^5.
- 1 ≤ arr1[i], arr2[j] ≤ 10^9.

Test Cases:
1. Test Case 1
   Input: arr1 = [1, 3, 5], arr2 = [2, 4, 6]
   Output: arr1 = [1, 2, 3], arr2 = [4, 5, 6]
2. Test Case 2:
   Input: arr1 = [10, 12, 14], arr2 = [1, 3, 5]
   Output: arr1 = [1, 3, 5], arr2 = [10, 12, 14]

3. Test Case 3:
   Input: arr1 = [2, 3, 8], arr2 = [4, 6, 10]
   Output: arr1 = [2, 3, 4], arr2 = [6, 8, 10]
4. Test Case 4:
   Input: arr1 = [1], arr2 = [2]
   Output: arr1 = [1], arr2 = [2]
5. Test Case 5:
   Input: arr1 = [1, 2, 3, 4, ..., 100000], arr2 = [50001, ..., 100000]
   Output: arr1 = [1, 2, 3, ..., 50000], arr2 = [50001, ..., 100000]

Edge Cases:
1. One or both arrays are already sorted in such a way that no swaps are needed.
2. One array is significantly smaller than the other.