

Given two sorted arrays **arr1[]** and **arr2[]** of sizes **N** and **M** in non-decreasing order. Merge them in sorted order without using any extra space. Modify arr1 so that it contains the first N elements and modify arr2 so that it contains the last M elements.

Example 1:

Input:

N = 4, arr1[] = [1 3 5 7]

M = 5, arr2[] = [0 2 6 8 9]

Output:

arr1[] = [0 1 2 3]

arr2[] = [5 6 7 8 9]

Explanation:

After merging the two non-decreasing arrays, we get,
0 1 2 3 5 6 7 8 9.

Example 2:

Input:

N = 2, arr1[] = [10, 12]

M = 3, arr2[] = [5 18 20]

Output:

arr1[] = [5 10]

arr2[] = [12 18 20]

Explanation:

After merging two sorted arrays we get 5 10 12 18 20.

Your Task:

You don't need to read input or print anything. You only need to complete the function **merge()** that takes arr1, arr2, N and M as input parameters and modifies them in-place so that they look like the sorted merged array when concatenated.

Expected Time Complexity: $O((n+m) \log(n+m))$

Expected Auxilliary Space: $O(1)$

Constraints:

$1 \leq X, Y \leq 5 \cdot 10^4$

$0 \leq \text{arr1}_i, \text{arr2}_i \leq 10^9$