

## 88. Merge Sorted Array



Given two sorted integer arrays *nums1* and *nums2*, merge *nums2* into *nums1* as one sorted array.

### Note:

- The number of elements initialized in *nums1* and *nums2* are *m* and *n* respectively.
- You may assume that *nums1* has enough space (size that is **equal** to *m* + *n*) to hold additional elements from *nums2*.

### Example:

#### Input:

*nums1* = [1,2,3,0,0,0], *m* = 3

*nums2* = [2,5,6], *n* = 3

**Output:** [1,2,2,3,5,6]

### Constraints:

- $-10^9 \leq \text{nums1}[i], \text{nums2}[i] \leq 10^9$
- `nums1.length == m + n`
- `nums2.length == n`

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## 合并两个有序数组

### Two pointers, Array

#### 将第二个数组合并到第一个in-place

1. put two pointers at the last element of two arrays, one more pointer at the end of array1 to add new element
2. iterate both arrays while (*m* >= 0 && *n* >= 0), and compare two current values, put the greater one to the end of array1, and move pointers backward
3. if array2 is not finished, keep looping while (*n* >= 0) until the index reaches negative