# 88. Merge Sorted Array

You are given two integer arrays nums1 and nums2, sorted in **non-decreasing order**, and two integers m and n elements in nums1 and nums2 respectively.

Merge nums1 and nums2 into a single array sorted in non-decreasing order.

The final sorted array should not be returned by the function, but instead be *stored inside the array* nums1. To accelength of m + n, where the first m elements denote the elements that should be merged, and the last n elements ignored. nums2 has a length of n.

### **Example 1:**

```
Input: nums1 = [1,2,3,0,0,0], m = 3, nums2 = [2,5,6], n = 3
Output: [1,2,2,3,5,6]
Explanation: The arrays we are merging are [1,2,3] and [2,5,6].
The result of the merge is [\underline{1},\underline{2},2,\underline{3},5,6] with the underlined elements coming from nums1.
```

### **Example 2:**

```
Input: nums1 = [1], m = 1, nums2 = [], n = 0
Output: [1]
Explanation: The arrays we are merging are [1] and [].
The result of the merge is [1].
```

# **Example 3:**

```
Input: nums1 = [0], m = 0, nums2 = [1], n = 1
Output: [1]
Explanation: The arrays we are merging are [] and [1].
The result of the merge is [1].
Note that because m = 0, there are no elements in nums1. The 0 is only there to ensure the merge nums1.
```

### **Constraints:**

```
• nums1.length == m + n
```