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 greater or 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]
```

```
class Solution {
    public void merge(int[] nums1, int m, int[] nums2, int n) {

        // two pointers
        // start from back to front
        int i = m - 1, j = n - 1;
        int index = m + n - 1;

        while(i >= 0 && j >= 0) {
            if(nums1[i] > nums2[j]) {
                nums1[index--] = nums1[i--];
            } else {
                nums1[index--] = nums2[j--];
            }
        }

        while(i >= 0) {
            nums1[index--] = nums1[i--];
        }

        while(j >= 0) {
            nums1[index--] = nums2[j--];
        }
    }
}
```