

## Merge Sorted Array

Ex) Inputs:  $[1, 2, 3, 0, 0, 0]$ ,  $m=3$ ,  $nums2 = [2, 5, 6]$ ,  $n=3$ .

Idea: Since these sorted in non-decreasing order, compare last elements.

Check if  $nums1[m-1] > nums2[n-1]$

Yes?  $nums1[last] = nums2[m-1]$   
 $n--$

①  $[1, 2, 3, 0, 0, 0]$   $[2, 5, 6]$   
 $n \leftarrow n$

②  $[1, 2, 3, 0, 0, 6]$   $[2, 5, 6]$   
 $n \leftarrow n$

③  $[1, 2, 3, 0, 5, 6]$   $[3, 5, 6]$   
 $m \leftarrow m$

if  $nums1[m-1] > nums2[n-1]$ :  
 $nums1[last] = nums2[m-1]$   
 $m = m-1$

④  $[1, 2, 3, 3, 5, 6]$   $[3, 5, 6]$   
 $n \leftarrow n$   
done