088. Merge Sorted Array

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- **Two Pointers** + Array

Description

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

Note:

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

1. Thought line

2. Two Pointers + Array

```
class Solution {
public:
    void merge(int A[], int m, int B[], int n) {

        int a=m-1;
        int b=n-1;
        int i=m+n-1;    // calculate the index of the last element of the merged array

        // go from the back by A and B and compare and put to the A element which is larger
        while(a>=0 && b>=0){
            if(A[a]>B[b])   A[i--]=A[a--];
            else            A[i--]=B[b--];
        }

        // if B is longer than A just copy the rest of B to A location, otherwise no need to do anything
        while(b>=0)         A[i--]=B[b--];
    }
};
```