Given an array of integers nums, sort the array in ascending order and return it.

You must solve the problem **without using any built-in** functions in O(nlog(n)) time complexity and with the smallest space complexity possible.

**Example 1:**

Input: nums = [5,2,3,1]  
Output: [1,2,3,5]  
Explanation: After sorting the array, the positions of some numbers are not changed (for example, 2 and 3), while the positions of other numbers are changed (for example, 1 and 5).

**Example 2:**

Input: nums = [5,1,1,2,0,0]  
Output: [0,0,1,1,2,5]  
Explanation: Note that the values of nums are not necessairly unique.

**Constraints:**

* 1 <= nums.length <= 5 \* 104
* -5 \* 104 <= nums[i] <= 5 \* 104