Given a circular integer array nums (i.e., the next element of nums[nums.length - 1] is nums[0]), return *the* ***next greater number*** *for every element in* nums.

The **next greater number** of a number x is the first greater number to its traversing-order next in the array, which means you could search circularly to find its next greater number. If it doesn't exist, return -1 for this number.

**Example 1:**

Input: nums = [1,2,1]  
Output: [2,-1,2]  
Explanation: The first 1's next greater number is 2;   
The number 2 can't find next greater number.   
The second 1's next greater number needs to search circularly, which is also 2.

**Example 2:**

Input: nums = [1,2,3,4,3]  
Output: [2,3,4,-1,4]

**Constraints:**

* 1 <= nums.length <= 104
* -109 <= nums[i] <= 109