# 503. Next Greater Element II

## Description

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 <= 10 4
- $-10^9 <= nums[i] <= 10^9$