Given a circular array (the next element of the last element is the first element of the array), print the Next Greater Number for every element. 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, output -1 for this number.

**Example 1:**

**Input:** [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.

**Note:** The length of given array won't exceed 10000.