Q11. Second Next Larger Element (20 marks):

The diagram below shows an array with 5 elements where the first element contains value 8 and the last element contains value 9. An array is said to be circular if we consider the first element as the next element of the last element.

8	3	12	1	9

Write a program that performs circular searching for each element in the array. The objective of searching is to find out the second element that is larger than each base element. For example, if we set the first element with value 8 as the base value, it will compare against 3, 12, 1 and 9, the first element that is larger than 8 is 12, and the second element with a value larger than 8 is 9. This is the answer for the first base value. Continue this process for each element. In this example, the next base value is 3. Compare it against 12, 1, 9, and 8. The first element that is larger than the base value of 3 is 12, and the second element that is larger than the base value is also 9. However, there are times when such an element does not exist; in such cases, return -1. For reference, the complete output for the given example is 9, 9, -1, 8, -1.

Write a programme to

Input, in sequence

(1) N, the size of the array to find the second next larger element, where $3 \leq N \leq 100$;
(2) N integers, $y_1, y_2, \ldots y_N$, where $0 \leq y_i \leq 10000$ for all $1 \leq i \leq N$

Output

The second next larger element for each of the N elements in the array, according to the sequence. If such a second next larger element does not exist, put -1 as the corresponding output value.

试题 11. 第二个较大的下一个元素（20 分）：

下面的图示展示了一个有 5 个元素的数组，其中第一个元素的值是 8，最后一个元素的值是 9。如果我们将第一个元素视为最后一个元素的下一个元素，那么这个数组就被认为是循环的

8	**3**	**12**	**1**	**9**

编写一个程序，对数组中的每个元素进行循环搜索。对于每个元素，搜索的目标是找出第二个比当前元素（基础值）大的元素。例如，如果我们将 8 设置为基础值，它将与 3、12、1 和 9 进行比较，比 8 大的第一个元素是 12，比 8 大的第二个元素是 9。这是第一个基础值的答案。继续为每个元素进行这个过程。在这个例子中，下一个基础值是 3。将其与 12、1、9 和 8 进行比较。比基础值 3 大的第一个元素是 12，比基础值大的第二个元素也是 9。然而，有时这样的元素并不存在；在这种情况下，返回-1。作为参考，给定示例的完整输出是 9、9、-1、8、-1。

试写一程式以

依序输入

(1) 数组的大小 N，其中 $3 \le N \le 100$;
(2) N 个整数 $y_1, y_2, \ldots y_N$，其中对于所有 $1 \le i \le N$，$0 \le y_i \le 10000$;

输出

根据顺序，输出数组中每个元素的第二个较大的下一个元素。如果不存在这样的第二个较大的下一个元素，则将对应的输出值设为 -1。

Example (例子)

Input (输入)	Output (输出)
5 1 2 3 4 5	3 4 5 -1 -1
10 3 8 5 1 12 10 7 2 8 2	5 10 10 10 -1 -1 8 3 10 8
15 7 12 9 6 5 10 7 0 7 11 6 8 1 6 7	9 -1 11 7 7 12 8 11 8 -1 7 9 7 7 9