

Problem D. Colivă

Input file: *standard input*
 Output file: *standard output*
 Time limit: 2 seconds
 Memory limit: 1024 mebibytes

Colivă is a sweet Romanian dish served at funerals. It is made of boiled wheat and is covered in powdered sugar with candies, coconut, and other sweets sprinkled on top.



You were tasked with making Colivă, but due to your inexperience, you managed to mess it up. Your Colivă can be seen as an array a of n integers where a_i represents the height of Colivă at index i . You decided to salvage as much Colivă as you can from the mess. To do this, you want to select the longest subarray (contiguous segment of the array) such that the Colivă there looks good.

On top of each piece of Colivă, there is a blue candy. You know that, in order for Colivă to look good, it should have exactly k_1 visible blue candies when viewed from the left side and exactly k_2 visible blue candies when viewed from the right side. A blue candy is visible if there is no piece of Colivă or other candy blocking it. More formally, the blue candy that is placed on top of the Colivă at index i is visible from the left if $a_j < a_i$ for all $1 \leq j < i$, and it is visible from the right if $a_j < a_i$ for all $i < j \leq n$.

Input

The first line contains t , the number of test cases ($1 \leq t \leq 6$). The test cases follow.

Each test case is described by two lines. The first of these lines contains three integers: n , k_1 , and k_2 ($1 \leq n \leq 10^6$, $1 \leq k_1, k_2 \leq n$). The second line contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq n$).

Output

For each test case, print the result on a separate line. If there is no way to salvage the Colivă, then print -1 . Otherwise, print the length of the longest subarray that looks good.

Example

<i>standard input</i>	<i>standard output</i>
1 12 3 5 1 3 1 2 1 3 4 5 4 3 2 1	11

Note

In the example, there are two subarrays that look good: $[2, 12]$ and $[6, 12]$. Out of those, subarray $[2, 12]$ is the longest with the length of 11.

