

## Problem D. Building Bombing

Input file: *standard input*  
Output file: *standard output*  
Time limit: 3 seconds  
Memory limit: 1024 mebibytes

KAIST has a series of  $N$  buildings in a row, numbered from 1 to  $N$ , from left to right. Building  $i$  has a height of  $h_i$ . Building  $i$  is visible from the left if and only if every building on its left has a height strictly less than  $h_i$ .

Your lab is located in building number  $L$ . Since your favorite number is  $K$ , you want to make your lab building the  $K$ -th tallest building visible from the left. To achieve your goal, you will blow up some of the buildings.

For example, suppose there are  $N = 7$  buildings in a row and their heights are  $[10, 30, 90, 40, 60, 60, 80]$ . Your lab is located at building number  $L = 2$  and your favorite number is  $K = 3$ . After blowing up buildings 3 and 7, the buildings visible from the left will be buildings 1, 2, 4, and 5. Then your lab becomes the 3rd tallest building visible from the left, as desired.

What is the minimum number of buildings to blow up to make your lab building the  $K$ -th tallest building visible from the left?

### Input

The first line contains three space-separated integers  $N$ ,  $L$ , and  $K$ .

The second line contains  $N$  space-separated integers  $h_1, \dots, h_N$ .

- $1 \leq L \leq N \leq 100\,000$
- $1 \leq K \leq 10$
- $1 \leq h_i \leq 10^9$  ( $1 \leq i \leq N$ )

### Output

Output the minimum number of buildings to blow up to make your lab building the  $K$ -th tallest building visible from the left. If it is impossible to do so, output  $-1$  instead.

### Examples

<i>standard input</i>	<i>standard output</i>
7 2 3 10 30 90 40 60 60 80	2
3 2 2 30 20 10	-1