

## B. Find Marble

time limit per test: 2 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Petya and Vasya are playing a game. Petya's got  $n$  non-transparent glasses, standing in a row. The glasses' positions are indexed with integers from 1 to  $n$  from left to right. Note that the positions are indexed but the glasses are not.

First Petya puts a marble under the glass in position  $s$ . Then he performs some (possibly zero) shuffling operations. One shuffling operation means moving the glass from the first position to position  $p_1$ , the glass from the second position to position  $p_2$  and so on. That is, a glass goes from position  $i$  to position  $p_i$ . Consider all glasses are moving simultaneously during one shuffling operation. When the glasses are shuffled, the marble doesn't travel from one glass to another: it moves together with the glass it was initially been put in.

After all shuffling operations Petya shows Vasya that the ball has moved to position  $t$ . Vasya's task is to say what minimum number of shuffling operations Petya has performed or determine that Petya has made a mistake and the marble could not have got from position  $s$  to position  $t$ .

### Input

The first line contains three integers:  $n, s, t$  ( $1 \leq n \leq 10^5$ ;  $1 \leq s, t \leq n$ ) — the number of glasses, the ball's initial and final position. The second line contains  $n$  space-separated integers:  $p_1, p_2, \dots, p_n$  ( $1 \leq p_i \leq n$ ) — the shuffling operation parameters. It is guaranteed that all  $p_i$ 's are distinct.

Note that  $s$  can equal  $t$ .

### Output

If the marble can move from position  $s$  to position  $t$ , then print on a single line a non-negative integer — the minimum number of shuffling operations, needed to get the marble to position  $t$ . If it is impossible, print number -1.

### Examples

<b>input</b>
4 2 1 2 3 4 1
<b>output</b>
3
<b>input</b>
4 3 3 4 1 3 2
<b>output</b>
0
<b>input</b>
4 3 4 1 2 3 4
<b>output</b>
-1
<b>input</b>

3 1 3  
2 1 3

output

-1