Problem L. Lagrange the Chef

Input file: standard input
Output file: standard output

Lagrange is a chef. He has developed several theories related to food.

In those theories, the most famous one is called Compatible Theory. Specifically, Lagrange has invented 10^6 different dishes. However, one pair of dishes, namely X and Y, when tasted one after another (regardless of order), would have a negative impact on the dining experience. Lagrange called the pairs of dishes "incompatible".

The concept of "compatible" can also be extended to a full meal. A meal, consisting of several dishes served in a specific order, is compatible if no two dishes served consecutively are incompatible.

One day, a guest requests a meal consists of N dishes $a_0, a_1, \cdots, a_{N-1}$ to be served in order. Since the guest didn't know Compatible Theory, the requested meal can be incompatible.

Lagrange wants to adjust the order of dishes to make the meal compatible while keeping the adjusted list not differ a lot from the original one. Hence, he defines an "adjusting step" as moving a dish in the list to any other position.

Your job is to calculate the minimum number of adjusting step required to make the meal compatible, or determine that this is impossible.

Input

The first line contains three positive integers N, X, Y ($1 \le N \le 5000, 1 \le X, Y \le 10^6, X \ne Y$).

The second line cantains N positive integers, $a_0, a_1, \cdots, a_{N-1}$ ($1 \le a_i \le 10^6$).

Output

If it is not possible to make the meal compatible, print `-1`. You should not print the quotation marks.

Otherwise, print an integer — the minimum number of adjusting step required to make the meal compatible.

Examples

standard input	standard output
3 1 2 1 2 3	1
3 1 2 1 2 2	-1