

Longest Monotonically Nondecreasing Sequence

You are given a set of numbers on the standard input. You need to figure out what is the smallest number of them that you need to remove so that you are left with the Longest Monotonically Nondecreasing Sequence.

Input

On the standard input you are given a set with less than 1000000 integers each less than 30000.

Output

A single integer - the number of numbers you will remove.

Example

Input:

3 1 2 0 5 4 10

Output:

3

(you need to remove 3, 0, (5 or 4), then you will be left with 1, 2, (5 or 4), 10).