# Problem G. Maximal Subsequence

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|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 1 second |
| Memory limit: | 256 mebibytes |

Let the *beauty* of a sequence be the length of its longest increasing subsequence.

You are given an array $a$ consisting of $n$ integers. Find the maximum length of a subsequence of array $a$ such that the beauty of this subsequence is less than the beauty of the whole array $a$.

## Input

The first line contains a single integer $n$, the number of elements in array $a$ ($1 \le n \le 5 \cdot 10^5$).

The second line contains $n$ space-separated integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^9$).

## Output

Print one integer: the maximum length of a subsequence of array $a$ such that its beauty is less than the beauty of the whole array $a$.

## Examples

| *standard input* | *standard output* |
|---|---|
| 3<br>2 1 3 | 2 |
| 4<br>4 3 2 1 | 0 |
| 4<br>2 1 4 3 | 2 |
| 6<br>4 6 5 2 1 3 | 4 |
| 4<br>3 4 1 2 | 2 |