Calculate the height of a tree

Given N numbers, construct a binary search tree from N numbers. Then calculate the height of the tree.

Input Format

The first line contains an integer N ($0 \le N \le 10^3$). The second line contains N positive integers that are the value of the elements. The element values are positive integers that do not exceed 10^6. The data is guaranteed that the values of the elements are different.

Output Format

Printing the height of the tree.

Sample test

inputcopy
5 10 25 78 32 40
outputcopy
5