$\label{lem:contest} Contest \ Duration: 2018-12-15 (Sat) \ 20:00 \ (http://www.timeanddate.com/worldclock/fixedtime.html? \\ iso=20181215T2100\&p1=248) \ \sim 2018-12-15 (Sat) \ 22:20 \ (http://www.timeanddate.com/worldclock/fixedtime.html? \\ iso=20181215T2320\&p1=248) \ (local time) \ (140 \ minutes) \\ Back \ to \ Home \ (/home) \ (home) \ (home)$ 

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# **C** - Lexicographic constraints

Editorial (/contests/agc029/tasks/agc029\_c/editorial)



Time Limit: 2 sec / Memory Limit: 1024 MB

Score: 700 points

### **Problem Statement**

There are N strings arranged in a row. It is known that, for any two adjacent strings, the string to the left is lexicographically smaller than the string to the right. That is,  $S_1 < S_2 < \ldots < S_N$  holds lexicographically, where  $S_i$  is the i-th string from the left.

At least how many different characters are contained in  $S_1, S_2, \ldots, S_N$ , if the length of  $S_i$  is known to be  $A_i$ ?

#### **Constraints**

- $1 \le N \le 2 \times 10^5$
- $1 \le A_i \le 10^9$
- $A_i$  is an integer.

#### Note

The strings do not necessarily consist of English alphabet; there can be arbitrarily many different characters (and the lexicographic order is defined for those characters).

2020-09-11 (Fri) 08:44:36 +08:00

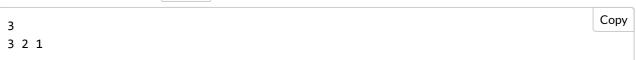
### Input

Input is given from Standard Input in the following format:

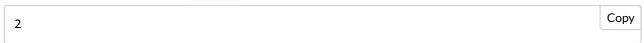
### **Output**

Print the minimum possible number of different characters contained in the strings.

# Sample Input 1 Copy



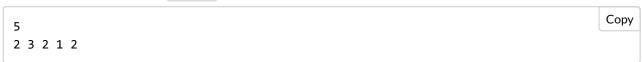
## Sample Output 1 Copy



The number of different characters contained in  $S_1, S_2, \ldots, S_N$  would be 3 when, for example,  $S_1=$  ' abc ',  $S_2=$  ' bb ' and  $S_3=$  ' c '.

However, if we choose the strings properly, the number of different characters can be 2.

# Sample Input 2 Copy



## Sample Output 2 Copy

Сору

#telegram)

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