
Money Heist

Input file: standard input
Output file: standard output
Time limit: 2 second
Memory limit: 256 megabytes

The **Royal Mint of Spain** has been invaded by a group of robbers artfully guided by a man called “**The Professor**”. This group of robbers have taken n hostages as part of their plan to print and escape with € 2.4 billion. These hostages have been forced to mint money for them and at the end of the day each hostage is assigned a **performance score** based on the contribution made towards minting the money.

Now, it's almost time for dinner and the group decides to give the food packets to all the hostages after their long day of work according to the performance scores of each of the hostages.

All the hostages are made to sit in a line. The packets are distributed according to following rules:

- Every hostage will receive at least one food packet.
- For two hostages sitting next to each other, the one with the higher score **must get more** packets.

The group wants to minimize the total number of food packets that they give to the hostages so that they save them for later.

Description

- n : an integer representing number of hostages
- A : array of integers representing the performance score of each hostage

Input

The first line contains an integer, n , the number of hostages.

Each of the next n lines contains an integer $A[i]$ indicating the performance score at position i .

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq A[i] \leq 10^5$

Output

Output the single line containing the minimum number of food packets that the group will have to distribute.

Example

standard input	standard output
3 1 2 2	4
10 2 4 2 6 1 7 8 9 2 1	19

Explanation

1. '1,2,2' is the performance score of the hostages. The optimal distribution of the food packets will be (1,2,1) hence a total of 4 packets.
Note: For the consecutive hostages with the same score, they are allowed to have different number of food packets.
 2. The optimal distribution of the food packets will be (1,2,1,2,1,2,3,4,2,1) hence a total of 19 packets.
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