

## B. Roadside Trees (Simplified Edition)

time limit per test: 2 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Squirrel Liss loves nuts. There are  $n$  trees (numbered 1 to  $n$  from west to east) along a street and there is a delicious nut on the top of each tree. The height of the tree  $i$  is  $h_i$ . Liss wants to eat all nuts.

Now Liss is on the root of the tree with the number 1. In one second Liss can perform one of the following actions:

- Walk up or down one unit on a tree.
- Eat a nut on the top of the current tree.
- Jump to the next tree. In this action the height of Liss doesn't change. More formally, when Liss is at height  $h$  of the tree  $i$  ( $1 \leq i \leq n - 1$ ), she jumps to height  $h$  of the tree  $i + 1$ . This action can't be performed if  $h > h_{i+1}$ .

Compute the minimal time (in seconds) required to eat all nuts.

### Input

The first line contains an integer  $n$  ( $1 \leq n \leq 10^5$ ) — the number of trees.

Next  $n$  lines contains the height of trees:  $i$ -th line contains an integer  $h_i$  ( $1 \leq h_i \leq 10^4$ ) — the height of the tree with the number  $i$ .

### Output

Print a single integer — the minimal time required to eat all nuts in seconds.

### Examples

input
2 1 2
output
5

  

input
5 2 1 2 1 1
output
14