

COCI '20 Contest 5 #2 Po

Time limit: 1.0s **Memory limit:** 512M

Tinky Winky left a sequence of n zeroes in the Tubbytronic Superdome, and left for a walk with Dipsy. When he came back, he saw that a misdeed has been done. The sequence was changed, and Po was smiling mischievously in the corner of the room.

Oh dear! Po, what have you done?! – asked Tinky Winky in horror.

I enhanced the sequence! – replied Po.

After cross-examination, it was established that Po did a number of enhancements on the sequence. In every enhancement, she took a **segment** of a sequence and **increased** all elements in the segment by some positive integer. Also, every two segments were either disjoint or one was completely contained in the other.

How many enhancements have you done, Po? – Laa-Laa inquired.

*I really don't know! I'm only sure I did the **minimum** number of enhancements possible to get this sequence! – said Po exhaustedly.*

Then it surely must be m ! – proclaimed Noo-Noo.

What number did Noo-Noo say?

Input Specification

The first line contains an integer n ($1 \leq n \leq 100\,000$), the length of the sequence.

The second line contains n non-negative integers a_i ($0 \leq a_i \leq 10^9$), the sequence after Po's enhancements.

Output Specification

Output m , the minimum possible number of enhancements.

Constraints

Subtask	Points	Constraints
1	30	$1 \leq n \leq 1\,000$
2	40	No additional constraints.

Sample Input 1

```
3
2 2 2
```

Sample Output 1

```
1
```

Sample Input 2

```
5
2 3 3 3 2
```

Sample Output 2

```
2
```

Explanation for Sample Output 2

Po first increased all elements of the sequence by 2, and then increased the middle three by 1.

Sample Input 3

```
6
1 2 3 2 1 3
```

Sample Output 3

```
4
```