Modify The Sequence

You are given a sequence of integers a_1,a_2,a_3.....a_n. You are free to replace any integer with any other positive integer. How many integers must be replaced to make the resulting sequence strictly increasing?

Input Format

The first line of the test case contains an integer N - the number of entries in the sequence.
The next line contains N space separated integers where the i^{th} integer is a_i.

Output Format

Output the minimal number of integers that should be replaced to make the sequence strictly increasing.

Constraints

$0 < N \leq 10^6$
$0 < a_i \leq 10^9$

Sample Input #00

```
3
4 10 20
```

Sample Output #00

```
0
```

Sample Input #01

```
6
1 7 10 2 20 22
```

Sample Output #01

```
1
```

Sample Input #02

```
5
1 2 2 3 4
```

Sample Output #02

```
3
```

Explanation

In the first sample input, we need not replace anything, hence the output is 0.
In the second sample input, we can replace 2 with any integer between 11 and 19 to make the sequence strictly increasing, hence the output is 1.
In the third sample input, we can obtain 1, 2, 3, 4, 5 by changing the last three elements of the sequence.