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PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   STANDINGS   CUSTOM INVOCATION

E. Block Sequence

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

Given a sequence of integers a of length n.

A sequence is called *beautiful* if it has the form of a series of blocks, each starting with its length, i.e., first comes the length of the block, and then its elements. For example, the sequences [3, 3, 4, 5, 2, 6, 1] and [1, 8, 4, 5, 2, 6, 1] are *beautiful* (different blocks are colored differently), while [1], [1, 4, 3], [3, 2, 1] are not.

In one operation, you can remove any element from the sequence. What is the minimum number of operations required to make the given sequence *beautiful*?

Input

The first line of the input contains a single integer t ($1 \le t \le 10^4$) — the number of test cases. Then follows the descriptions of the test cases.

The first line of each test case contains a single integer n ($1 \le n \le 2 \cdot 10^5$) — the length of the sequence a.

The second line of each test case contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^6$) — the elements of the sequence a.

It is guaranteed that the sum of the values of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output a single number — the minimum number of deletions required to make the sequence a *beautiful*.

Example

input
```
7
7
3 3 4 5 2 6 1
4
5 6 3 2
6
3 4 1 6 7 7
3
1 4 3
5
1 2 3 4 5
5
1 2 3 1 2
5
4 5 5 1 5
```

output
```
0
4
1
```

Codeforces Round 903 (Div. 3)
Finished
Practice
⭐

→ **Problem tags**

dp

No tag edit access

→ **Contest materials**

- Announcement ✕
- Tutorial ✕

```
1
2
1
0
```

Note

In the first test case of the example, the given sequence is already *beautiful*, as shown in the statement.

In the second test case of the example, the sequence can only be made beautiful by removing all elements from it.

In the fifth test case of the example, the sequence can be made beautiful by removing the first and last elements. Then the sequence will become $[2, \ 3, \ 4]$.