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C. Neo's Escape

time limit per test: 2 seconds memory limit per test: 256 megabytes

Neo wants to escape from the Matrix. In front of him are n buttons arranged in a row. Each button has a weight given by an integer: a_1, a_2, \ldots, a_n .

Neo is immobilized, but he can create and move clones. This means he can perform an unlimited number of actions of the following two types in any order:

- 1. Create a clone in front of a specific button.
- 2. Move an existing clone one position to the left or right.

As soon as a clone is in front of another button that has not yet been pressed—regardless of whether he was created or moved — he **immediately** presses it. If the button has already been pressed, a clone does nothing — buttons can only be pressed once.

For Neo to escape, he needs to press **all** the buttons in such an order that the sequence of their weights is **non-increasing** — that is, if b_1, b_2, \ldots, b_n are the weights of the buttons in the order they are pressed, then it must hold that $b_1 \geq b_2 \geq \cdots \geq b_n$.

Your task is to determine the minimum number of clones that Neo needs to create in order to press all the buttons in a valid order.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 10^4$). The description of the test cases follows.

The first line of each test case contains one integer n ($1 \le n \le 2 \cdot 10^5$) — the number of buttons.

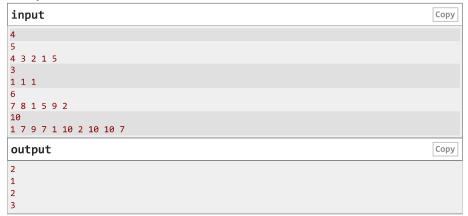
The second line of each test case contains n integers a_1, a_2, \ldots, a_n $(1 \le a_i \le 10^9)$ — the weights of the buttons.

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

Output

For each test case, output one integer — the minimum number of clones that need to be created to press all the buttons in a valid order.

Example



Note

In the first test case, Neo can act as follows:

- 1. Create a clone in front of the fifth button (with weight 5).
- 2. Create a clone in front of the first button (with weight 4).
- 3. Move the second clone from the first button to the second (with weight 3).
- 4. Move the second clone from the second button to the third (with weight 2).

Codeforces Round 1022 (Div. 2)

Finished

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Practice



→ Virtual participation

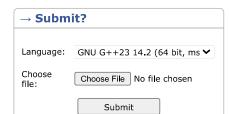
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Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest



→ Last submissions		
Submission	Time	Verdict
321852826	May/29/2025 05:22	Accepted
318005975	May/01/2025 19:15	Wrong answer on pretest 2
317997717	May/01/2025 18:55	Wrong answer on pretest 2



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→ Contest materials

- Announcement
- Tutorial

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5. Move the first clone from the fifth button to the fourth (with weight 1).

Thus, the sequence of button presses will be $5 \to 4 \to 3 \to 2 \to 1$, which meets the requirement. It can be shown that the number of clones created is the smallest possible. In the second test case, Neo can act as follows:

- 1. Create a clone in front of the second button (with weight 1).
- 2. Move the clone from the second button to the third (with weight 1).
- 3. Move the clone from the third button to the second (already pressed).
- 4. Move the clone from the second button to the first (with weight 1).

Thus, the sequence of button presses will be $1 \to 1 \to 1$.

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