



Problem B

Frieren's Spellbook

Time limit: 3 seconds

Memory limit: 2048 megabytes

Problem Description

In the magical world where the elf mage Frieren and her companions have completed their epic quest, defeating the Demon King and bringing peace to the land, Frieren continues her journey. Centuries have passed, and Frieren embarks on a new quest not for glory, but for understanding—the mysteries of magic itself and the spells collected throughout her long life.

Frieren discovers an ancient spellbook in the ruins of a forgotten library. The spells within are in disarray, their order lost to time. This spellbook is special, it contains spells of great power that, if sorted correctly, could unlock deeper understandings of magic. However, the spellbook's magic only allows it to be sorted in a very particular way.

The spellbook contain a sequence of N spells, each spell has an interger represents the power level of it, and the maximum power level of each spell doesn't over C . To unravel the secrets within, Frieren must sort the spellbook by cutting the sequence into K continuous blocks and sorting the spells within each block separately.

The goal to unlock deeper understanding of magic is to find the maximum number of blocks K , such that after sorting all K blocks individually, the entire sequence becomes sorted in ascending order, thereby revealing the spellbook's hidden knowledge.

Now, Frieren needs your help to unlock this spellbook because she was eaten by a mimic treasure monster while exploring a forgotten library, and she's not in the mood to solve it herself. Please help her unlock it.

Input Format

The first line contains one positive integers, N , representing the numbers of the spells in the spellbook. The second line contains N integers, representing the power level of the spells in sequence.

Output Format

Output a positive integer K representing the maximum continuous blocks that after sorting the spells within each block separately, the entire sequence becomes sorted in ascending order.

Technical Specification

- $1 \leq N \leq 5 \times 10^5$
- $1 \leq C \leq 10^9$

Sample Input 1



9
1 2 2 5 4 3 7 9 8

Sample Output 1

6

Sample Input 2

6
2 9 12 15 20 20

Sample Output 2

6

Sample Input 3

10
3 1 3 7 7 15 9 16 20 20

Sample Output 3

8

Note

For the sample testcase 1, Frieren can divide the spell into [1], [2], [2], [5, 4, 3], [7], and [9, 8] to unlock the hidden knowledge within the spellbook.