C. Cool Partition

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

Yousef has an array a of size n. He wants to partition the array into one or more contiguous segments such that each element a_i belongs to exactly one segment.

A partition is called *cool* if, for every segment b_j, all elements in b_j also appear in b_{j+1} (if it exists). That is, every element in a segment must also be present in the segment following it.

For example, if $a = [1, 2, 2, 3, 1, 5]$, a *cool* partition Yousef can make is $b_1 = [1, 2]$, $b_2 = [2, 3, 1, 5]$. This is a *cool* partition because every element in b_1 (which are 1 and 2) also appears in b_2. In contrast, $b_1 = [1, 2, 2]$, $b_2 = [3, 1, 5]$ is not a *cool* partition, since 2 appears in b_1 but not in b_2.

Note that after partitioning the array, you do **not** change the order of the segments. Also, note that if an element appears several times in some segment b_j, it only needs to appear at least once in b_{j+1}.

Your task is to help Yousef by finding the maximum number of segments that make a *cool* partition.

Input

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

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

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

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

Output

For each test case, print one integer — the maximum number of segments that make a *cool* partition.

Example

input

```
8
6
1 2 2 3 1 5
8
1 2 1 3 2 1 3 2
5
5 4 3 2 1
10
5 8 7 5 8 5 7 8 10 9
3
1 2 2
9
3 3 1 4 3 2 4 1 2
6
4 5 4 5 6 4
8
1 2 1 2 1 2 1 2
```

output

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

Note

The first test case is explained in the statement. We can partition it into $b_1 = [1, 2]$, $b_2 = [2, 3, 1, 5]$. It can be shown there is no other partition with more segments.

In the second test case, we can partition the array into $b_1 = [1, 2]$, $b_2 = [1, 3, 2]$, $b_3 = [1, 3, 2]$. The maximum number of segments is 3.

In the third test case, the only partition we can make is $b_1 = [5, 4, 3, 2, 1]$. Any other partition will not satisfy the condition. Therefore, the answer is 1.