Problem E. Tenzing and Balls

Time limit 1000 ms
Mem limit 262144 kB

Enjoy erasing Tenzing, identified as Accepted!

Tenzing has n balls arranged in a line. The color of the i-th ball from the left is a_i.

Tenzing can do the following operation any number of times:

- select i and j such that $1 \leq i < j \leq |a|$ and $a_i = a_j$,
- remove $a_i, a_{i+1}, \ldots, a_j$ from the array (and decrease the indices of all elements to the right of a_j by $j - i + 1$).

Tenzing wants to know the maximum number of balls he can remove.

Input

Each test contains multiple test cases. The first line of input contains a single integer t ($1 \leq t \leq 10^3$) — the number of test cases. The description of test cases follows.

The first line contains a single integer n ($1 \leq n \leq 2 \cdot 10^5$) — the number of balls.

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \leq a_i \leq n$) — the color of the balls.

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

Output

For each test case, output the maximum number of balls Tenzing can remove.

Sample 1

Input	Output
2 5 1 2 2 3 3 4 1 2 1 2	4 3

Note

In the first example, Tenzing will choose $i = 2$ and $j = 3$ in the first operation so that $a = [1, 3, 3]$. Then Tenzing will choose $i = 2$ and $j = 3$ again in the second operation so that $a = [1]$. So Tenzing can remove 4 balls in total.

In the second example, Tenzing will choose $i = 1$ and $j = 3$ in the first and only operation so that $a = [2]$. So Tenzing can remove 3 balls in total.