Two in One

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	512 megabytes

Given a color sequence c of length n.

Define $\text{occ}(x, l, r)$ as the number of occurrences of color x in the sequence c between the lth and r^{th} items.

Please find an interval $[l, r]$ and then find two colors x, y (note x, y can be equal), so that $\text{occ}(x, l, r) \text{ or } \text{occ}(y, l, r)$ is maximized, where or is the binary OR operation.

Input

There are multiple test cases. The first line of the input contains a single integer T $(1 \leq T \leq 10^5)$, indicating the number of the test cases. For each of the test case:

For each test case, the first line contains a positive integer n $(1 \leq n \leq 10^5)$.

The second line contains n integers, representing the sequence c $(1 \leq c_i \leq n)$.

It is guaranteed that the sum of n over all test cases does not exceed 5×10^5.

Output

Output a single line contains a single integer, indicating the answer.

Examples

standard input	standard output
1 7 1 2 3 4 3 2 1	3
1 9 1 1 1 1 1 2 2 2 2	7

Note

For the first test case, one possible selection is the interval $[2, 5]$ and choosing colors 2 and 3, with occurrence counts of 2 and 1 respectively, resulting in a bitwise OR result of 3. It can be proven that there is no better solution.