Array Cleaning

Kawshik and Maisha are friends. Kawshik gave this task to Maisha as a *New Year gift*.

Kawshik has an array a consisting of n integers: $a[1], a[2], \ldots, a[n]$. Maisha can do the following operation on array a **at most once** –

- Choose a sub-array from a and delete it. After that, join the remaining piece(s) of the array together in their original order. Formally, she can choose integers l and r $(1 \leq l \leq r \leq n)$ and delete the sub-array $a[l], a[l+1], \ldots, a[r]$.

All elements of the final array should be equal. Find the minimum length of a sub-array she may delete in order to achieve that. In particular, if she does not need to do the operation, print 0.

Input

Read the input from the standard input in the following format:

- line 1: n
- line 2: $a[1]$ $a[2]$ $\ldots$ $a[n]$

Output

Write the output to the standard output in the following format:

- line 1: minimum length of the sub-array Maisha must delete so that all elements of the final array are equal. If she does not need to delete anything, print 0.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq a[i] \leq n$ (for all $1 \leq i \leq n$)

Subtasks

1. (11 points) $n \leq 500$
2. (89 points) No further constraints.

Examples

Example 1

```
3
1 2 1
```

The correct output is:

```
1
```

Choose $l = r = 2$. Final array will be $[1, 1]$.

Example 2

```
5
1 1 2 2 2
```

The correct output is:

```
2
```

She can choose $l = 1, r = 2$. Final array will be $[2, 2, 2]$.

Example 3

```
4
1 1 1 1
```

The correct output is:

```
0
```

No operation is needed here.