A. Gift Boxes

Problem Name	Gift Boxes
Time Limit	2 seconds
Memory Limit	1 gigabyte

This year's EGOI is organized in Bonn. The organizers want to distribute a gift box to every team in the contest, with each team represented by a number from 0 to $T-1$. However, the contestants, who are in a row, are mixed up such that people from the same team might not be standing next to each other. Note that there will be at least one team with more than one person in the row. There are N people in the row. Person i is part of the team a_i. The problem is: each team should only receive a maximum of one gift box. To avoid any confusion or hurt feelings, the organizers cannot simply ask each person which team they represent in order to decide whether to give them a gift box or not based on whether one of their teammates has already received one. Instead, they are allowed to pause the gifting process at most once, skipping a few contestants before resuming the gift box handouts.

It is not necessary that every team receives a gift. Nevertheless, the organizers want to maximize the number of teams that will receive their gifts while ensuring that no team ends up with two gifts, equivalent to minimizing the number of contestants that are skipped under this condition. Please help the organizers to decide when it is best to pause distributing gifts such that as few contestants as possible are skipped.

Input

The first line of input contains two integers, T and N – the number of teams and the number of contestants in the row.

The second line contains N integers, a_i, where the ith integer describes which team the person at position i in the row belongs to. It is guaranteed that every integer between 0 and $T-1$ appears at least once.

Output

Output two integers, ℓ and r, where ℓ is the index of the first person that is skipped and r is the index of the last skipped person. If there is more than one solution, print any one of them.

Constraints and Scoring

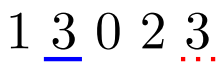
- $1 \leq T < N \leq 500\,000$.
- $0 \leq a_i \leq T - 1$.

Your solution will be tested on a set of test groups, each worth a number of points. Each test group contains a set of test cases. To get the points for a test group, you need to solve all test cases in the test group.

Group	Score	Limits
1	8	$N = T + 1$, i.e. only one team will appear twice
2	11	$N = 2 \cdot T$ and every team will appear once in the first half and once in the second half of the line
3	14	$1 \leq T < N \leq 500$
4	21	$N = 2 \cdot T$ and every team will appear twice
5	22	$1 \leq T < N \leq 5\,000$
6	24	No additional constraints

Examples

The first sample satisfies the constraints of test groups 1, 3, 5 and 6. Two different outputs are possible: `1 1` and `4 4`, as described in the picture below. Either way, all four teams receive gifts and no team receives a gift twice.



The second sample satisfies the constraints of test groups 2, 3, 4, 5 and 6. Again, two different outputs are possible: `0 2` and `3 5`, as described in the picture below. In both cases, all three teams receive gifts.

The third sample satisfies the constraints of test groups 3, 4, 5, 6. The optimal solution is that three teams receive a gift, as shown below. The contestants with indices 0, 1 and 7, who are in teams 0, 2 and 3, respectively, receive gifts. This is the only possible solution.

$$0\ 2\ 0\ 1\ 2\ 1\ 3\ 3$$

The fourth sample satisfies the constraints of test groups 3, 5 and 6. Again two different outputs are possible: `0 3` and `1 4`, as described in the picture below. In both cases, exactly two teams (team 0 and team 1) receive gifts. Team 2 does not receive a gift as doing so would require giving team 0 or 1 two gifts, which is strictly forbidden.

$$1\ 1\ 2\ 0\ 1\ 0$$

The fifth sample satisfies the constraints of test groups 3, 5 and 6. The only possible answer is `2 3`, as described in the picture below. All four teams receive gifts.

$$0\ 1\ 2\ 0\ 3\ 2$$

The sixth sample satisfies the constraints of test groups 3, 5 and 6. A maximum of four out of five teams can receive a gift, as shown below. The contestants with indices 0, 9, 10 and 11, who are in teams 3, 4, 1 and 0, respectively, receive gifts. This is the only possible solution.

$$3\ 3\ 3\ 1\ 2\ 0\ 3\ 3\ 2\ 1\ 4\ 1\ 0$$

Input	Output
4 5 1 3 0 2 3	1 1
3 6 1 0 2 2 1 0	0 2
4 8 0 2 0 1 2 1 3 3	2 6
3 6 1 1 2 0 1 0	0 3
4 6 0 1 2 0 3 2	2 3
5 13 3 3 3 1 2 0 3 3 2 1 4 1 0	1 9