Cards

Description

There are n cards in a row, each card has its value a_i. You, the talent programmer, love the natural number sequence $1, 2, 3, \ldots$ very much. Now you want to remove some cards to make the remaining card sequence looks like the natural number sequence as much as possible. Formally, if the i-th card in remaining card sequence is b_i, you want to maximize $|\{b_i = i\}|$.

Input

The first line contains a integer T indicating the total number of test cases. Each test case contains two lines. The first line contains a integer n, denoting the number of cards. The second line contains n integers $a_1, a_2, \ldots, a_n$, denoting the value of each card from left to right.

- $1 \leq T \leq 1500$
- $1 \leq n \leq 100000$
- $1 \leq a_i \leq n$
- There are at most 20 test cases with $n > 1000$.

Output

For each test case, print the maximum $|\{b_i = i\}|$.

Sample Input

```
3
3
1 2 3
6
5 1 4 5 1 4
13
3 1 4 1 5 9 2 6 5 3 5 8 9
```

Sample Output

```
3
2
4
```

Hint

The one possible solution of last sample is `1 4 1 5 9 6 5 8 9`.