Given an array, we need to remove all elements of the array using only two options,

i) Remove the elements x and y if x is not equal to y; where x,y are elements of the array

ii) Remove an element x from the array

Return the minimum possible number of attempts in which all the elements of the given array can be removed.

Input Format

First line contains an integer describing the number of test cases.

First line of every test case contains an integer N describing the number of elements in the array.

The following line contains N space separated integers that make the array.

Output Format

For each case output the required number of attempts in a newline.

Example

Input

3

2

1 2

2

1 1

3

1 2 3

Output

1

2

2

For example, for the first test case, we can choose the integers 1 and 2 and remove them as they are not equal.

Constraints

The algorithm must be efficient so as to pass all the hidden test cases as well.

It should be designed such that it works for any kind of input within the description of the problem statement.

1 ≤ # test cases ≤ 50000

1 ≤ N ≤ 50000

1 ≤ Value of an element of the array ≤ (10 raise to power 9)

sum of N over all test cases does not exceed 5 × (10 raise to power 5)

NOTE: Any submission which exceeds a threshold for the plagiarism check percentage of the submitted code shall be invalidated.