

Problem X. All Distinct

Time limit 1000 ms

Mem limit 262144 kB

Sho has an array a consisting of n integers. An operation consists of choosing two distinct indices i and j and removing a_i and a_j from the array.

For example, for the array $[2, 3, 4, 2, 5]$, Sho can choose to remove indices 1 and 3. After this operation, the array becomes $[3, 2, 5]$. Note that after any operation, the length of the array is reduced by two.

After he made some operations, Sho has an array that has only **distinct** elements. In addition, he made operations such that the resulting array is the **longest** possible.

More formally, the array after Sho has made his operations respects these criteria:

- No pairs such that $(i < j)$ and $a_i = a_j$ exist.
- The length of a is maximized.

Output the length of the final array.

Input

The first line contains a single integer t ($1 \leq t \leq 10^3$) — the number of test cases.

The first line of each test case contains a single integer n ($1 \leq n \leq 50$) — the length of the array.

The second line of each test case contains n integers a_i ($1 \leq a_i \leq 10^4$) — the elements of the array.

Output

For each test case, output a single integer — the length of the final array. Remember that in the final array, all elements are different, and its length is maximum.

Examples

Input	Output
4 6 2 2 2 3 3 3 5 9 1 9 9 1 4 15 16 16 15 4 10 100 1000 10000	2 1 2 4

Note

For the first test case Sho can perform operations as follows:

1. Choose indices 1 and 5 to remove. The array becomes $[2, 2, 2, 3, 3, 3] \rightarrow [2, 2, 3, 3]$.
2. Choose indices 1 and 4 to remove. The array becomes $[2, 2, 3, 3] \rightarrow [2, 3]$.

The final array has a length of 2, so the answer is 2. It can be proven that Sho cannot obtain an array with a longer length.

For the second test case Sho can perform operations as follows:

1. Choose indices 3 and 4 to remove. The array becomes $[9, 1, 9, 9, 1] \rightarrow [9, 1, 1]$.
2. Choose indices 1 and 3 to remove. The array becomes $[9, 1, 1] \rightarrow [1]$.

The final array has a length of 1, so the answer is 1. It can be proven that Sho cannot obtain an array with a longer length.