Subset Counting

Problem ID: subsetcount

Time limit: 1 second

Given a sequence of integers a_1,a_2,...,a_n; find the number of sets S satisfying the following conditions:

- $S \subset \{1, 2, ..., n\}$
- $\exists x \in S : a_x \notin S$
- $\exists y \in S : (\forall x \in S : a_x \neq y)$

Since the result can be rather large, you should output it modulo 998244353.

Input

The input contains multiple test cases. Each test case is presented in two lines as below:

- The first line contains an integer n ($1 \leq n \leq 10^5$).
- The second line contains n integers a_1,a_2,...,a_n ($1 \leq |a_i| \leq n$).

The input is terminated by a line with a single integer 0 which is not a test case. The sum of n over all test cases does not exceed 10^6.

Output

For each test case, write the result on the single line.

Explaination

In the second test cases, 6 valid sets are $\{1\}$;$\{2\}$;$\{3\}$;$\{1, 2\}$;$\{2, 3\}$;$\{3, 1\}$.

Sample Input 1	Sample Output 1
3 1 2 3 3 2 3 1 0	0 6