Problem I. Inverse Problem

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

You are given an integer N and an integer sequence X of length M. Count, modulo 998244353, the number of permutations $P = (P_1, P_2, \ldots, P_N)$ of $(1, 2, \ldots, N)$ that satisfy the following condition:

- The lexicographically smallest subsequence of P of length M coincides with X.

Input

The first line contains integers N ($1 \le N \le 250000$) and M ($1 \le M \le N$).

The second line contains integers $X_1, X_2, \ldots, X_M$ ($1 \le X_i \le N$, $X_i \ne X_j$ for all $i \ne j$).

Output

Print the answer.

Examples

standard input	standard output
3 2 1 2	3
10 5 2 7 8 3 6	0
5 5 1 2 3 4 5	1