Problem C. Record Parity

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

You are given a permutation of length n and an integer k.

An element is called a record if it is strictly greater than all the elements before it.

Calculate the sum of $(-1)^{len}$ over all subsequences that have exactly k records. Here len is the number of elements in the subsequence. Since the answer can be large, calculate it modulo $998\,244\,353$.

Input

The first line contains two integers n and k ($1 \le k \le n \le 10^6$).

The second line contains the permutation $p_1, p_2, \ldots, p_n$.

Output

I'll let you guess this one.

Examples

standard input	*standard output*
5 2 4 1 2 5 3	3
7 3 1 2 3 4 5 6 7	998244318
5 5 2 5 4 1 3	0

Note

In the second sample all of subsequences of length 3 have exactly 3 records, and none other subsequences have exactly 3 records, so the sum is equal to $(-1)^3\binom{7}{3} = -35$, which is $998\,244\,318$ modulo $998\,244\,353$.

In the third sample none of the subsequences have exactly 5 records, and the sum of empty set is 0.