El Dorado

Bruce Force has gone to Las Vegas, the El Dorado for gamblers. He is interested especially in one betting game, where a machine forms a sequence of n numbers by drawing random numbers. Each player should estimate beforehand, how many increasing subsequences of length k will exist in the sequence of numbers.

A subsequence of a sequence $a_1, ..., a_n$ is defined as $a_{i_1}, ..., a_{i_l}$, where $1 \le i_1 < i_2 < ... < i_l \le n$. The subsequence is increasing, if $a_{i_{j-1}} < a_{i_j}$ for all $1 < j \le l$.

Bruce doesn't trust the Casino to count the number of increasing subsequences of length k correctly. He has asked you if you can solve this problem for him.

Input

The input contains several test cases. The first line of each test case contains two numbers n and k ($1 \le k \le n \le 100$), where n is the length of the sequence drawn by the machine, and k is the desired length of the increasing subsequences. The following line contains n pairwise distinct integers a_i ($-10000 \le a_i \le 10000$), where a_i is the i^{th} number in the sequence drawn by the machine.

The last test case is followed by a line containing two zeros.

Output

For each test case, print one line with the number of increasing subsequences of length k that the input sequence contains. You may assume that the inputs are chosen in such a way that this number fits into a 64 bit signed integer (in C/C++, you may use the data type "long long", in Java the data type "long").

Example

Input:
10 5
1 2 3 4 5 6 7 8 9 10
3 2
3 2 1
0 0
Output:
252
0