

Problem K. Colorful Components

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

There are n nodes, the i -th of which has color c_i . For a given integer k ($1 \leq k \leq n$), please count the number of ways to build exactly $n - 1$ undirected edges between the nodes, such that:

- (1) The n nodes form a connected graph.
- (2) If we destroy every edge that connects two nodes of different colors, then every connected component in the remaining graph has at most k vertices.

Two ways of building edges are considered different if and only if there exist two nodes i and j such that $1 \leq i < j \leq n$ and there is an edge between them in one of the two ways but not in the other.

Since the number could be large, you only need to output the answer modulo $10^9 + 7$.

Input

The first line contains two integers, n and k ($1 \leq k \leq n \leq 300$).

The following n lines contain integers c_1, c_2, \dots, c_n denoting the colors of the nodes, one integer per line ($1 \leq c_i \leq n$).

Output

Output the answer modulo $10^9 + 7$.

Examples

standard input	standard output
5 3 1 1 3 1 5	125
4 2 2 1 1 1	7