

Problem F. Saddle Point

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

bobo has a matrix of size $n \times m$, whose elements are integers from $[1, k]$.

Find out the number of matrices with at least one *saddle point*, modulo $(10^9 + 7)$.

Note that a *saddle point* is a position (i, j) which is both strict maximum of the i -th row and j -th column.

Input

3 integers n, m, k ($1 \leq n, m \leq 500, 1 \leq k \leq 10$).

Output

A single integer denotes the number of matrices.

Examples

standard input	standard output
2 2 2	6
500 500 2	48326276