

Problem E. k -transpositions

Input file: *standard input*
Output file: *standard output*
Time limit: 3 seconds
Memory limit: 256 mebibytes

Given the identity permutation of n elements, you need to find the number of permutations one can obtain from it using no more than k transpositions. Since the desired number can be rather large, output it modulo $10^9 + 7$.

A *transposition* is an operation that swaps two different entries of the permutation.

Input

The only line of the input contains two space-separated integers n and k ($1 \leq n \leq 10^9$, $0 \leq k \leq 3000$).

Output

Output one integer: the answer to the problem modulo $10^9 + 7$.

Examples

standard input	standard output
4 1	7
4 2	18
7 7	5040