Vera and Sorting

2017 Winter Waterloo Local ACM Contest, Problem D

Vera is very smart and invented a new sorting algorithm. She coded the following Python function to count how many steps her algorithm takes.

A permutation P is an ordered set of integers P_1, P_2, \cdots, P_N , consisting of N distinct positive integers, each of which are at most N. We will call the number N the size of the permutation.

You are given integers N and K.

Help Vera count the number of permutations P of size N such that steps(P) returns the value K. This number could be large, so output it modulo 10^9+7 .

Constraints

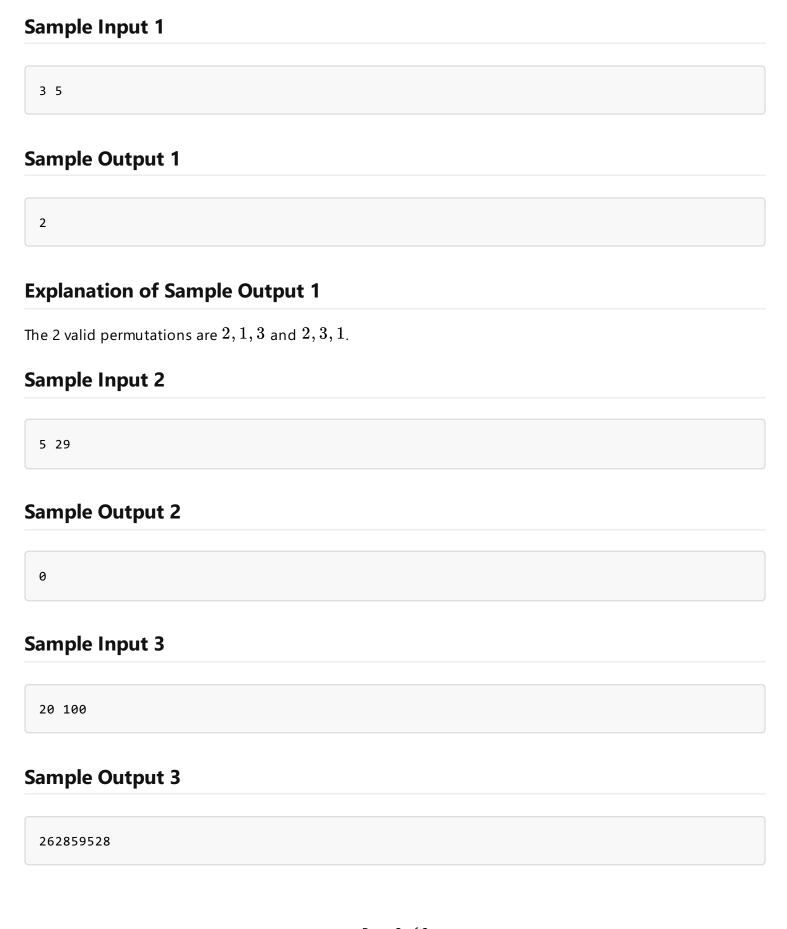
- $1 \le N \le 30$
- $1 \le K \le 900$
- \bullet N, K are integers

Input Specification

The input will be in the format:

NK

Output Specification



Output one integer, the number of possible permutations, modulo $10^9 \pm 7\,$.