Problem I
Level K Parentheses Sequence
Time limit: 1 second
Memory: 1024 megabytes

Problem Description

The sequence of parentheses and the level of the sequence are defined as follows:

- An empty string is a level 0 sequence of parentheses.
- If S is a sequence of parentheses at level a, then (S) is a sequence of parentheses at level a+1.
- If S is a sequence of parentheses at level a and T is a sequence of parentheses at level b, then the level of ST is the maximum of the two numbers a and b.

Requirement: Given two positive integers n and k, calculate the number of sequences of parentheses of length n at level k.

Example: For n = 8 and k = 3, there are 5 sequences of parentheses that satisfy the requirement: ((()())), ((())()), (())()), (()(())), ()((())).

Input Structure:

- Two positive integers n and k ($2k \leq n \leq 2000$).

Output Structure:

- The number of sequences of parentheses after taking modulo $10^9 + 7$.

Example:

INPUT	OUTPUT
8 3	5