

5092 Permutation Counting

Given a permutation a_1, a_2, \dots, a_N of $\{1, 2, \dots, N\}$, we define its E-value as the amount of elements where $a_i > i$. For example, the E-value of permutation $\{1, 3, 2, 4\}$ is 1, while the E-value of $\{4, 3, 2, 1\}$ is 2. You are requested to find how many permutations of $\{1, 2, \dots, N\}$ whose E-value is exactly k .

Input

There are several test cases, and one line for each case, which contains two integers, N and k . ($1 \leq N \leq 1000, 0 \leq k \leq N$).

Output

Output one line for each case. For the answer may be quite huge, you need to output the answer *module* 1,000,000,007.

Explanation for the sample:

There is only one permutation with E-value 0: $\{1, 2, 3\}$, and there are four permutations with E-value 1: $\{1, 3, 2\}$, $\{2, 1, 3\}$, $\{3, 1, 2\}$, $\{3, 2, 1\}$

Sample Input

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3 0
3 1
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Sample Output

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1
4
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