

THE INTERNATIONAL OLYMPIAD IN INFORMATICS IN TEAMS

MAY 23-28, 2018

KST

time limit per test: 0.1 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

A KST is a search tree which has K values in every node and (K+1) children. For example, for k=1 a KST becomes a binary search tree. The values inside each node are sorted in ascending order. We will write v[i] for the value on the position i of a node. The tree has the following property: for every node, its first child will contain smaller values than v[1], the second child will contain values in the interval (v[1], v[2]), the third child will contain values in the interval (v[2], v[3]), ..., the penultimate child will contain values in the interval (v[k-1], v[k]), and the last child will contain larger values than v[k].

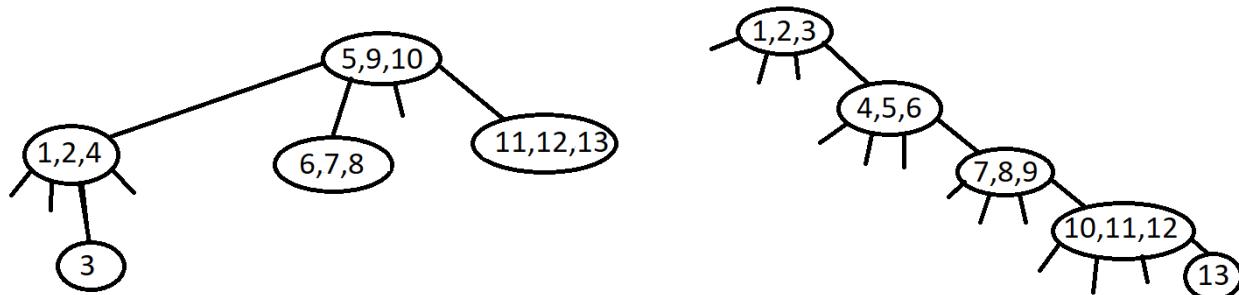
A node cannot have children if it does not contain K values. The leaves can contain even fewer than k values.

Task

Given N – the number of elements and K, the task is to find out how many such trees exist.

The elements will be 1,2,3,...,N.

For example, the following two trees are valid for N = 13 and K = 3.



Input

The first line contains the numbers N and K.

Output

The first line will display how many such trees exist **modulo 666013**.

Constraints

$1 \leq n, k \leq 1000$

for 10% of the testcases, $n \leq 10$ and $k \leq 4$

for another 15% of the testcases, $n \leq 25$ and $k \leq 4$

for another 25% of the testcases, $n \leq 1000$ and $k = 1$

Example

Input	Input	Input	Input
5 1	5 2	666 13	987 123
Output	Output	Output	Output
42	16	581769	529937



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