1009. K-based Numbers

Time limit: 1.0 second
Memory limit: 64 MB

Let's consider K-based numbers, containing exactly N digits. We define a number to be valid if its K-based notation doesn't contain two successive zeros. For example:

- 1010230 is a valid 7-digit number;
- 1000198 is not a valid number;
- 0001235 is not a 7-digit number, it is a 4-digit number.

Given two numbers N and K, you are to calculate an amount of valid K based numbers, containing N digits.

You may assume that $2 \le K \le 10$; $N \ge 2$; $N + K \le 18$.

Input

The numbers N and K in decimal notation separated by the line break.

Output

The result in decimal notation.

Sample

input	output
2 10	90

Problem Source: USU Championship 1997
Tags: dynamic programming (hide tags for unsolved problems)