

1012. K-based Numbers. Version 2

Time limit: 0.5 second

Memory limit: 16 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 $2 \leq K \leq 10$; $N \geq 2$; $N + K \leq 1800$.

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