

Sequence

Problem description

Given a positive integer k ($3 \leq k \leq 15$), form an increasing sequence of all powers of k and the sum of all finite powers of k that are not equal to each other. For example, when $k = 3$, the sequence is:

1,3,4,9,10,12,13...

(the sequence is actually: $3^0, 3^1, 3^0+3^1, 3^2, 3^0+3^2, 3^1+3^2, 3^0+3^1+3^2, \dots$)

Please find the value of the N^{th} term in this sequence (expressed in decimal numbers).

For example, for $k = 3$ and $N = 100$, the correct answer would be 981.

Input

The input file contains two positive integers, separated by a space:

k N (the meanings of k and N are the same as the above problem description, and $3 \leq k \leq 15, 10 \leq N \leq 1000$).

Output

The output file is a positive integer (No spaces or other symbols before integers).

Sample Input

3 100

Sample Output

981