Find the **N**-th smallest positive integer whose least prime factor is **P**, or state that the result is greater than 10^9.

INPUT

The first and only line of input contains space seperated integers **N** and **P** ($1 \leq \mathbf{N}, \mathbf{P} \leq 10^9$). **P** will always be prime.

OUTPUT

Output a single line with the expected result, or zero if result exceeds 10^9.

SCORING

In test cases worth 30% of total points, expected result will either be less than 100 000, or will exceed 10^9.

In test cases worth additional 30% of total points, **P** will be greater than 1000.

SAMPLE TESTS

input	**input**	**input**
1 2	2 3	1000 1000003
output	**output**	**output**
2	9	0