Prime

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 ($1 \leq$ N, 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.

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