Candy Coupon

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes
Points available:	100

A candy store is having a special, where they sell any piece of candy for R1. Additionally, each piece of candy contains a coupon inside the wrapper, and coupons can be exchanged for another piece of candy!

Given the amount of money you start with and the number of coupons required to exchange for a piece of candy, determine the maximum amount of candy you can obtain (through buying candy and exchanging coupons for candy).

Input

The only line of input consists of two integers n and k ($1 \leq n \leq 10^9$, $2 \leq k \leq 10^9$). n is the amount of money you start with (in rands), and k is the number of coupons required to exchange for a piece of candy.

Output

Output a single integer, the total amount of candy you can obtain.

Scoring

Subtask 1: (10 points) Examples.

Subtask 2: (10 points) $k > n$.

Subtask 3: (20 points) $k = 2$.

Subtask 4: (20 points) $k \geq \sqrt{n}$.

Subtask 5: (40 points) No additional constraints.

Examples

standard input	standard output
2 2	3
10 3	14
37 4	49

Note

In the first example, you start with R2. You can buy 2 pieces of candy, and exchange two coupons for one more candy, for a maximum total of 3 candy.

In the second example, you start with R10. You can buy 10 pieces of candy, and exchange 9 coupons for 3 additional candy. Now you have 4 coupons left, and can exchange 3 of these for one more candy, giving you the maximum total of 14 candy.