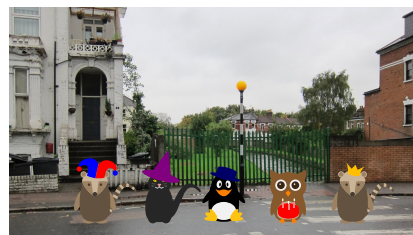


## A Animal Attire

Time limit: 2s

The Coati Queen has decided to make the animal parade a recurring tradition, to be held  $n$  more times during her reign. The tradition will now require all participants to wear a different outfit for each occurrence of the parade. An outfit consists of exactly  $k$  types of clothing. For each type, there can be many different individual clothing items. Each clothing item is of exactly one type. Two outfits are different, if they have a different item in at least one type of clothing.



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Adélie the Penguin has decided she will be smart about it, and buy all the items upfront to receive a good discount. What is the least total number of different clothing items she needs to own?

As an example, consider the second sample input. The outfits consist of 3 types of clothing: for example, a shirt, a pair of trousers, and a hat. To make the 8 different outfits that she requires, Adélie can make combinations of 2 differently patterned shirts, 2 differently coloured pairs of trousers, and 2 different hats, for a total of 6 clothing items.

### Input

The input consists of:

- One line with two integers  $k$  and  $n$  ( $1 \leq k \leq 100$ ,  $1 \leq n \leq 10^{12}$ ), the number of different types of clothing and the number of upcoming parades.

### Output

Output the least total number of different clothing items Adélie needs to own, in order to wear a different outfit for each of the upcoming parades.

#### Sample Input 1

2 4	4
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#### Sample Output 1

#### Sample Input 2

3 8	6
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#### Sample Output 2

#### Sample Input 3

4 30	10
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#### Sample Output 3