# Problem H. Hidden Integer

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|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 1 second |
| Memory limit: | 256 mebibytes |

David Blane has an hidden integer $x$.

He does the following operations $k$ times. In the $i$-th operation, $x$ becomes the least integer no less than $x$, which is the multiple of $i$.

He wants to know what is the number $x$ now.

## Input

There are no more than 510 test cases, terminated by a line "`0 0`".

For each test case, the only one line contains two integers $x$,$k$($1 \le x \le 10^{10}$, $1 \le k \le 10^{10}$).

## Output

For each test case, output one line, containing value of $x$.

## Example

| standard input | standard output |
|---|---|
| 2520 10<br>2520 20<br>0 0 | 2520<br>2600 |