

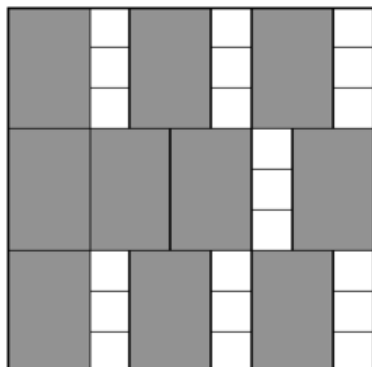
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A. Packing Rectangles

time limit per test: 2 seconds

memory limit per test: 512 megabytes

There are n rectangles of the same size: w in width and h in length. It is required to find a square of the smallest size into which these rectangles can be packed. Rectangles cannot be rotated.



Input


The input contains three integers w, h, n ($1 \leq w, h, n \leq 10^9$).

Output

Output the minimum length of a side of a square, into which the given rectangles can be packed.

Example

input	Copy
2 3 10	
output	Copy
9	

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