Problem 9: The Gate

Statement

Hogwarts is under attack, the enemies are rushing through the entrance gate, Harry has to close it before it's too late.

The boy with the scare picked up his magic wand to lift heavy rock blocks and close the big gate of size **N** (the width)**.**

Knowing that there are two types of blocks with different sizes:

Element D: 2x2 block 

Element S: 1x1 block

Help Harry finds the maximum number of lines he can form to close the gate and save Hogwarts one more time.

Input

3 lines of integers representing:

The number of blocks of type D.

The number of blocks of type S.

The size of the gate N.

Output

A single integer denoting the maximum number of lines we can form.

Example

Input	Output
4 4 8	2

Explanation

Having 4 blocks of D and 4 of S, Knowing that the gate is of size 8, we can align the first 4 blocks of type D next to each other, this will take up the whole width of the gate and results of a wall of 2 lines. Next, we align the rest 4 blocks of type S on top of them, but as you can notice; they are not enough to form a third ligne, so the output will be 2.