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A - Approximation

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Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 150 points

Problem Statement

You are given a positive integer A and a positive odd integer B .

Output the integer whose difference from the real number $\frac{A}{B}$ is the smallest.

It can be proved that, under the constraints, such an integer is unique.

Constraints

- $1 \leq A \leq 407$
- $1 \leq B \leq 407$
- B is odd.
- All input values are integers.

Input

The input is given from Standard Input in the following format:

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15:30:08 -04:00

$A \ B$

Output

Output the integer that minimizes the difference from $\frac{A}{B}$.

Sample Input 1

[Copy](#)

4 7

[Copy](#)

Sample Output 1

[Copy](#)

1

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We have $\frac{A}{B} = \frac{4}{7} = 0.5714\dots$. The difference between $\frac{A}{B}$ and 1 is $\frac{3}{7} = 0.4285\dots$, and no integer has a smaller difference.

Thus, print 1.

Sample Input 2

[Copy](#)

407 29

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Sample Output 2

[Copy](#)

14

[Copy](#)

We have $\frac{A}{B} = \frac{407}{29} = 14.0344\dots$. The difference between $\frac{A}{B}$ and 14 is $\frac{1}{29} = 0.0344\dots$, and no integer has a smaller difference.

Thus, print 14.

Sample Input 3

[Copy](#)

22 11

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Sample Output 3

Copy

2

Copy

$\frac{A}{B}$ may itself be an integer.

Language

Python (CPython 3.11.4) ▼

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