A - Approximation

Editorial (/contests/abc407/tasks/abc407_a/editorial)

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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:

A B

Output

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

Sample Input 1 Copy

```
4 7
```

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Sample Output 1 Copy

```
1
```

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

Thus, print `1`.

Sample Input 2 Copy

```
407 29
```

Copy

Sample Output 2 Copy

```
14
```

Copy

We have $\frac{A}{B} = \frac{407}{29} = 14.0344\ldots$. The difference between $\frac{A}{B}$ and 14 is $\frac{1}{29} = 0.0344\ldots$, 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)

Source Code

Open File | Customize | Toggle Editor | Auto Height

```
1
```

* at most 512 KiB

* Your source code will be saved as Main.*extension*.

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