

## C. Neko does Maths

time limit per test: 1 second  
 memory limit per test: 256 megabytes  
 input: standard input  
 output: standard output

Neko loves divisors. During the latest number theory lesson, he got an interesting exercise from his math teacher.

Neko has two integers  $a$  and  $b$ . His goal is to find a non-negative integer  $k$  such that the least common multiple of  $a + k$  and  $b + k$  is the smallest possible. If there are multiple optimal integers  $k$ , he needs to choose the smallest one.

Given his mathematical talent, Neko had no trouble getting Wrong Answer on this problem. Can you help him solve it?

### Input

The only line contains two integers  $a$  and  $b$  ( $1 \leq a, b \leq 10^9$ ).

### Output

Print the smallest non-negative integer  $k$  ( $k \geq 0$ ) such that the lowest common multiple of  $a + k$  and  $b + k$  is the smallest possible.

If there are many possible integers  $k$  giving the same value of the least common multiple, print the smallest one.

### Examples

input	Copy
6 10	
output	Copy
2	

input	Copy
21 31	
output	Copy
9	

input	Copy
5 10	
output	Copy
0	

### Note

In the first test, one should choose  $k = 2$ , as the least common multiple of  $6 + 2$  and  $10 + 2$  is 24, which is the smallest least common multiple possible.

### Codeforces Round #554 (Div. 2).

Finished

Practice



### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

### → Submit?

Language: GNU G++17 7.3.0 ▼

Choose file: Choisir un fichier Aucun f...choisi

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

### → Problem tags

brute force math number theory  
 \*1800

No tag edit access

### → Contest materials

- Announcement (en) ✕
- Tutorial (en) ✕

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