

 Please subscribe to the official Codeforces channel in Telegram via the link https://t.me/codeforces_official.

[PROBLEMS](#) [SUBMIT CODE](#) [MY SUBMISSIONS](#) [STATUS](#) [STANDINGS](#) [CUSTOM INVOCATION](#)

C. Monitor

time limit per test: 0.5 second
memory limit per test: 64 megabytes

Reca company makes monitors, the most popular of their models is AB999 with the screen size $a \times b$ centimeters. Because of some production peculiarities a screen parameters are integer numbers. Recently the screen sides ratio $x: y$ became popular with users. That's why the company wants to reduce monitor AB999 size so that its screen sides ratio becomes $x: y$, at the same time they want its total area to be maximal of all possible variants. Your task is to find the screen parameters of the reduced size model, or find out that such a reduction can't be performed.

Input

The first line of the input contains 4 integers — a, b, x and y ($1 \leq a, b, x, y \leq 2 \cdot 10^9$).

Output

If the answer exists, output 2 positive integers — screen parameters of the reduced size model. Output 0 0 otherwise.

Examples

input	Copy
800 600 4 3	
output	Copy
800 600	

input	Copy
1920 1200 16 9	
output	Copy
1920 1080	

input	Copy
1 1 1 2	
output	Copy
0 0	

Codeforces Beta Round 16 (Div. 2 Only)

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](#)

→ Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms)

Choose file: [Choose File](#) No file chosen

[Submit](#)

→ Last submissions

Submission	Time	Verdict
327087923	Jul/02/2025 15:49	Accepted

→ Problem tags

[binary search](#) [number theory](#) *1800

No tag edit access

→ Contest materials

- Announcement

[Codeforces](#) (c) Copyright 2010-2025 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Jul/02/2025 19:49:16^{UTC+7} (k1).
Desktop version, switch to [mobile version](#).
[Privacy Policy](#) | [Terms and Conditions](#)

Supported by



ITMO