PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   STANDINGS   CUSTOM INVOCATION

A. Ginger's number

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Ginger have two positive integers x, y, you have to do exactly one operation:

Choose two positive integers a, b, change x to $\dfrac{x}{a}$, and change y to $\dfrac{y}{b}$, (a must be a divisor of x, b must be a divisor of y and $\gcd(\dfrac{x}{a}, \dfrac{y}{b}) = 1$).

Find the minimum value of $a \times b$.

Input

The first line of input contains a single integer T $(1 \le T \le 10^5)$ — the number of input test cases.

For each test case, the only line of input contains two positive integers x, y $(1 \le x, y \le 10^9)$.

Output

Print the minimum value of $a \times b$.

Example

input	Copy
1 114514 1919810	
output	**Copy**
2	

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