Problem A
A Totient Quotient
Time Limit: 1 Second, Memory Limit: 2G

For a positive integer k, Euler's totient function $\phi(k)$ is defined as the number of positive integers less than or equal to k and relatively prime to k. For example, $\phi(9) = 6$, $\phi(24) = 8$, and $\phi(1) = 1$. (As a reminder, the greatest common divisor (gcd) of two positive integers a and b is the greatest positive integer that divides both a and b. Two positive integers are relatively prime if their gcd is 1.)

Euler's product formula gives the value of $\phi(k)$ in terms of the prime factorization of k. For a prime p, let $\nu_p(k)$ be the highest power of p which divides k (so for example, $\nu_2(48) = 4$, $\nu_3(48) = 1$, and $\nu_5(48) = 0$). If k is a product of powers of prime factors, $k = \prod_{i=1}^{j} p_i^{\nu_{p_i}(k)}$ (where the product only includes primes p_i with $\nu_{p_i}(k) > 0$), then

$$\phi(k) = \prod_{i=1}^{j} \left[(p_i - 1) \left(p_i^{\nu_{p_i}(k)-1} \right) \right].$$

A recent edition of The American Mathematical Monthly (Li et al., *Positive Rational Numbers of the Form* $\phi(m^2)/\phi(n^2)$, 128(2), 2021) proved the following fact about totient quotients: for any pair of positive integers a, b there is a unique pair of positive integers m, n for which:

1. $\frac{a}{b} = \frac{\phi(m^2)}{\phi(n^2)}$;
2. if a prime p divides the product mn, then $\nu_p(m) \neq \nu_p(n)$;
3. $\gcd(m, n)$ is square-free: that is, for every prime p, $\gcd(m, n)$ is not divisible by p^2.

Conditions 2 and 3 guarantee that m and n are the unique smallest pair of positive integers satisfying condition 1.

You'd like to verify this claim numerically. Write a program which takes as input two integers a and b and outputs the corresponding pair m, n.

Input

The only line of input contains two space-separated integers a and b ($1 \leq a, b \leq 10\,000$). These two integers are guaranteed to be relatively prime. Additionally, a and b will be chosen so that output values m and n are less than 2^{63}.

Output

Print the two positive integers m and n satisfying all three of the conditions of The American Mathematical Monthly's theorem, separated by a space. It is guaranteed that $m, n < 2^{63}$.

Sample Input 1	Sample Output 1
9 13	18 13

Sample Input 2	Sample Output 2
19 47	13110 18612