Extend Euclid

The Euclidean algorithm is an efficient method for computing the greatest common divisor (GCD) of two natural numbers. The implementation of the algorithm can be expressed in pseudocode as below:

```
int gcd(a, b){
    if b = 0
        return a
    else
        return gcd(b, a mod b)
}
```

In addition, for every pair of (a, b), there always exist two integers a' and b' such that $a' * a + b' * b = gcd(a, b)$. Our goal is to calculate (a', b') for each given pair of (a, b).

Note that since there are multiple pairs which satisfy the above condition, please output the pair (a', b') such that a' is the minimum natural number (ZERO is inclusive).

INPUT

There are multiple test cases. Each test case contains two integers a, b $(1 \leq a, b \leq 10000000)$ in a line.

OUTPUT

For each test case, output a' and b' which are separated by a space.

SAMPLE INPUT

3 7

27 18

44 16

1 1

9 12

SAMPLE OUTPUT

5 -2

1 -1

3 -8

0 1

3 -2