04/12/12 Euclid Problem

Euclid Problem

The Problem

From Euclid it is known that for any positive integers A and B there exist such integers X and Y that AX+BY=D, where D is the greatest common divisor of A and B. The problem is to find for given A and B corresponding X, Y and D.

The Input

The input will consist of a set of lines with the integer numbers A and B, separated with space (A, B < 1000000001).

The Output

For each input line the output line should consist of three integers X, Y and D, separated with space. If there are several such X and Y, you should output that pair for which |X|+|Y| is the minimal (primarily) and $X \le Y$ (secondarily).

Sample Input

4 6 17 17

Sample Output

-1 1 2 0 1 17