Fractions Decomposition

Write a program to decompose a given rational number into a sum of pairwise distinct fractions: $1/n_1 + 1/n_2 + ... + 1/n_k$, where n_i are positive integers.

Input

Test cases (no more than 10 000) are given in the form

p q

where *p* and *q* are positive integers such that 1 <= *p* <= *q* <= 1 000 (*p* and *q* are separated by a single space character). After each test case, a new line character follows.

Output

For each pair *p* and *q*, decompose *p*/*q* into the sum: $1/n_1 + 1/n_2 + ... + 1/n_k$. As the result, please print only the denominators sorted from the smallest to the largest, separated by spaces. A newline character should follow the solution to each test-case.

Example 1

Input:

```
2 3
3 4
2 5
3 7
```

Output:

```
2 6
2 4
3 15
3 11 231
```

Example 2

A larger test-case: input, and corresponding output.

Scoring

By solving this problem you score 10 points.