Mirko has received a homework assignment to compute the **greatest common divisor** of the two positive integers **A** and **B**. Since the numbers are quite large, the teacher provided him with **N** smaller integers whose product is **A**, and **M** integers with product **B**.

Mirko would like to verify his result, so he has asked you to write a program to solve his problem.

If the result is more than 9 digits long, output only the **last 9** digits.

INPUT

The first line of input contains the positive integer **N** ($1 \leq \mathbf{N} \leq 1000$).

The second line of input contains **N** space-separated positive integers less than 1 000 000 000, whose product is the number **A**.

The third line of input contains the positive integer **M** ($1 \leq \mathbf{M} \leq 1000$).

The fourth line of input contains **M** space-separated positive integers less than 1 000 000 000, whose product is the number **B**.

OUTPUT

The first and only line of output must contain the greatest common divisor of numbers **A** and **B**. If the result is more than 9 digits long, output only the last (least significant) 9 digits.

SAMPLE TESTS

input	input	input
3 2 3 5 2 4 5	4 6 2 3 4 1 1	3 358572 83391967 82 3 50229961 1091444 8863
output	output	output
10	1	000012028

First sample description: The greatest common divisor of numbers A = 30 and B = 20 equals 10.