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Homework

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 ($1 \leq N \leq 1000$).
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 ($1 \leq M \leq 1000$).
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 input	Sample output
3 2 3 5 2 4 5	10
4 6 2 3 4 1 1	1
3 358572 83391967 82 3 50229961 1091444 8863	000012028

Clarification of the first test case

The greatest common divisor of numbers A = 30 and B = 20 equals 10.