COCI '11 Contest 2 #3 Zadaća

Time limit: 1.0s **Memory limit:** 32M

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 Specification

The first line of input contains the positive integer N $(1 \leq N \leq 1\,000)$.

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 $(1 \leq M \leq 1\,000)$.

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

Output Specification

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 1

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

Sample Output 1

```
10
```

Explanation for Sample Output 1

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

Sample Input 2

```
4
6 2 3 4
1
1
```

Sample Output 2

```
1
```

Sample Input 3

```
3
358572 83391967 82
3
50229961 1091444 8863
```

Sample Output 3

```
000012028
```