

HUGE GCD

RK 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 professor provided him with **N** smaller integers whose product is **A**, and **M** integers with product **B**.

RK 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 10^9 , 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 10^9 , 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

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

Output

```
10
```

Input

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

Output

```
000012028
```

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