

Q2. GCD and LCM (30 marks)

The **Greatest Common Divisor (GCD)** of two or more integers is the largest positive integer that divides all of them without leaving a remainder. On the other hand, the **Least Common Multiple (LCM)** of two or more integers is the smallest positive integer that is divisible by all of them. In this question, you are required to find the GCD and LCM of a group of positive integers.

Write a program to**Input, in sequence:**

- (1) N , the number of positive integers to be considered, where $2 \leq N \leq 5$.
- (2) N positive integers, and none of them exceeds 1000.

Output, in sequence:

- (1) The GCD of these N integers
- (2) The LCM of these N integers

试题 2. 最大公约数和最小公倍数 (30 分)

最大公约数 (GCD) 是能够整除两个或更多正整数的最大正整数；而最小公倍数 (LCM) 则是能够被它们所有整除的最小正整数。在这个问题中，您需要计算一组正整数的最大公约数和最小公倍数。

试写一程式以**依序输入：**

- (1) N ，正整数数量，其中 $2 \leq N \leq 5$ ；
- (2) N 个不超过 1000 的正整数。

依序输出：

- (1) 此 N 个数的最大公约数 (GCD)
- (2) 此 N 个数的最小公倍数 (LCM)

Examples (例子)

| Input (输入) | Output (输出) |
|---------------------------------------|----------------------|
| 2 100 100 | 100 100 |
| 5 1000 999 997 991 989 | 1 976181544297000 |
| 3 55 455 390 | 5 30030 |
| 4 4 8 2 10 | 2 40 |
| 5 357 969 816 153 561 | 51 3581424 |

Test Cases and Solution for Q2: GCD and LCM:**Test Cases:**

| Input (輸入) | Output (輸出) |
|---------------------------------------|----------------------|
| 2 100 100 | 100 100 |
| 5 1000 999 997 991 989 | 1 976181544297000 |
| 3 55 455 390 | 5 30030 |
| 4 4 8 2 10 | 2 40 |
| 5 357 969 816 153 561 | 51 3581424 |
| 4 392 49 735 637 | 49 76440 |
| 3 997 997 997 | 997 997 |
| 5 1000 10 100 | 10 1000 |

| | |
|-----|--|
| 100 | |
| 10 | |