Problem AP. Fox and Number Game

Time limit 1000 ms
Mem limit 262144 kB

Fox Ciel is playing a game with numbers now.

Ciel has n positive integers: $x_1, x_2, ..., x_n$. She can do the following operation as many times as needed: select two different indexes i and j such that $x_i > x_j$ hold, and then apply assignment $x_i = x_i - x_j$. The goal is to make the sum of all numbers as small as possible.

Please help Ciel to find this minimal sum.

Input

The first line contains an integer n ($2 \le n \le 100$). Then the second line contains n integers: $x_1, x_2, ..., x_n$ ($1 \le x_i \le 100$).

Output

Output a single integer — the required minimal sum.

Sample 1

Input	Output
2 1 2	2

Sample 2

Input	Output
3 2 4 6	6

Sample 3

Input	Output
2 12 18	12

Sample 4

Input	Output
5 45 12 27 30 18	15

Note

In the first example the optimal way is to do the assignment: $x_2 = x_2 - x_1$.

In the second example the optimal sequence of operations is: $x_3 = x_3 - x_2, x_2 = x_2 - x_1$.