

Maximum Gcd and Sum



You are given two arrays A and B containing n elements each. Choose a pair of elements (x, y) such that:

- x belongs to array A .
- y belongs to array B .
- $\text{gcd}(x, y)$ is the maximum of all pairs (x, y) .

If there is more than one such pair (x, y) having maximum gcd, then choose the one with maximum sum. Print the sum of elements of this maximum-sum pair.

NOTE: $\text{gcd}(x, y)$ returns the largest integer that divides both x and y .

Input Format

The first line of the input contains n denoting the total number of elements of arrays A and B . Next line contains n space separated positive integers denoting the elements of array A . Next line contains n space separated positive integers denoting the elements of array B .

Constraints

- $1 \leq n \leq 5 \times 10^5$
- $1 \leq A_i \leq 10^6$
- $1 \leq B_i \leq 10^6$

Output Format

From all the pairs having maximum gcd, print the sum of one that has the maximum sum.

Sample Input 0

```
5
3 1 4 2 8
5 2 12 8 3
```

Sample Output 0

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16
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Explanation 0

Over all the pairs, if we choose 8 from array A , and 8 from array B , we get $\text{gcd}(8, 8) = 8$, which is the maximum gcd over all the pairs.

Thus, maximum sum of pair $(8, 8)$ is equal to $8 + 8 = 16$