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Maximum Gcd and Sum   🔒 locked

H by dipjal

Problem	Submissions	Leaderboard	Discussions	Editorial

Submissions will no longer be placed on the leaderboard. You may still attempt this problem for practice.

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.

- $\gcd(x, y)$ 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: $\gcd(x, y)$ 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

- $1 \le n \le 5 \times 10^5$

- $1 \le A_i \le 10^6$

- $1 \le B_i \le 10^6$

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

```
16
```

Explanation 0

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

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

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Submissions: 7926
Max Score: 14.76
Difficulty: Medium

Current Buffer (saved locally, editable)   ⑂ 🕑   C# ⌄   ⤢   ⚙

```
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  using System.Linq;
5 ▾ class Solution {
6
7 ▾     static int maximumGcdAndSum(int[] A, int[] B) {
8          // Complete this function
9      }
10
11 ▾    static void Main(String[] args) {
12         int n = Convert.ToInt32(Console.ReadLine());
13         string[] A_temp = Console.ReadLine().Split(' ');
14         int[] A = Array.ConvertAll(A_temp,Int32.Parse);
15         string[] B_temp = Console.ReadLine().Split(' ');
16         int[] B = Array.ConvertAll(B_temp,Int32.Parse);
17         int res = maximumGcdAndSum(A, B);
18         Console.WriteLine(res);
19     }
20 }
21
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code