

Between Two Sets



Problem Submissions Leaderboard Discussions Editorial

Consider two sets of positive integers, $A = \{a_0, a_1, \dots, a_{n-1}\}$ and $B = \{b_0, b_1, \dots, b_{m-1}\}$. We say that a positive integer, \boldsymbol{x} , is between sets \boldsymbol{A} and \boldsymbol{B} if the following conditions are satisfied:

- 1. All elements in ${m A}$ are factors of ${m x}$.
- 2. **x** is a factor of all elements in **B**.

Given \boldsymbol{A} and \boldsymbol{B} , find and print the number of integers (i.e., possible \boldsymbol{x} 's) that are between the two sets.

Input Format

The first line contains two space-separated integers describing the respective values of n (the number of elements in set A) and m (the number of elements in set A).

The second line contains n distinct space-separated integers describing $a_0, a_1, \ldots, a_{n-1}$.

The third line contains m distinct space-separated integers describing $b_0, b_1, \ldots, b_{m-1}$.

Constraints

- $1 \le n, m \le 10$
- $1 \le a_i \le 100$
- $1 \leq b_i \leq 100$

Output Format

Print the number of integers that are considered to be between ${m A}$ and ${m B}$.

Sample Input

2 3

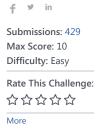
16 32 96

Sample Output

3

Explanation

The integers that are between $A=\{2,4\}$ and $B=\{16,32,96\}$ are 4, 8, and 16.



Current Buffer (saved locally, editable) & 🗗		C#	~	22	•
1 2	<pre>using System; using System.Collections.Generic;</pre>				

```
3 using System.IO;
 4 using System.Linq;
 5 v class Solution {
 6
 7 🔻
        static void Main(String[] args) {
 8
            string[] tokens_n = Console.ReadLine().Split(' ');
            int n = Convert.ToInt32(tokens_n[0]);
 9
10
            int m = Convert.ToInt32(tokens_n[1]);
            string[] a_temp = Console.ReadLine().Split(' ');
11
12
             int[] a = Array.ConvertAll(a_temp,Int32.Parse);
13
            string[] b_temp = Console.ReadLine().Split(' ');
            int[] b = Array.ConvertAll(b_temp,Int32.Parse);
14
15
16
            int ans = 0;
17
18
                 for (int x = a.Max(); x <= b.Min(); x++)
19 ▼
20
                     for ( i = 0; i < n; i++)
21
22 🔻
23
                         if (x % a[i] != 0)
24 •
25
                             break;
26
27
                     int j;
28
                     for (j = 0; j < m; j++)
29
30 🔻
31
                         if (b[j] % x != 0)
32 ▼
                         {
33
                             break;
34
                         }
35
36
                     if (i == n \&\& j == m)
37 ▼
38
                         ans++;
39
                     }
40
41
                 Console.WriteLine(ans);
42
43
44
45
46
    }
47
                                                                                                                 Line: 31 Col: 30
                       Test against custom input
                                                                                                       Run Code
                                                                                                                    Submit Code
1 Upload Code as File
                                         Congrats, you solved this challenge!
               ✓ Test Case #0
                                                        ✓ Test Case #1
                                                                                                 ✓ Test Case #2
                Test Case #3
                                                        ✓ Test Case #4
                                                                                                 ✓ Test Case #5
                                                        ✓ Test Case #7
               ✓ Test Case #6
                                                                                                            Next Challenge
```

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