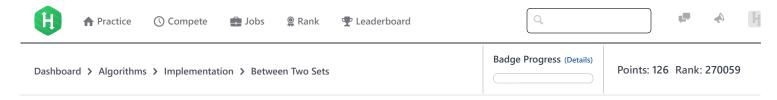
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Between Two Sets



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 A and B if the following conditions are satisfied:

- 1. All elements in \boldsymbol{A} are factors of \boldsymbol{x} .
- 2. \boldsymbol{x} is a factor of all elements in \boldsymbol{B} .

In other words, some x is between A and B if that value of x satisfies $x \mod a_i = 0$ for every a_i in A and also satisfies $b_i \mod x = 0$ for every b_i in B. For example, if $A = \{2, 6\}$ and $B = \{12\}$, then our possible x values are $a_i \mod x = 0$ for every $a_i \mod x = 0$ for

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 n) and n (the number of elements in set n).

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

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

Output Format

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

Sample Input

2 3 2 4 16 32 96

Sample Output

3

Explanation

There are three $m{x}$ values between $m{A}=\{2,4\}$ and $m{B}=\{16,32,96\}$:

- x = 4:
 - All the elements in \boldsymbol{A} evenly divide $\boldsymbol{x}=\boldsymbol{4}$.

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• x = 4 evenly divides all the elements in B.

- x = 8:
 - All the elements in ${m A}$ evenly divide ${m x}={m 8}$.
 - x = 8 evenly divides all the elements in B.
- x = 16:
 - All the elements in \boldsymbol{A} evenly divide $\boldsymbol{x}=16$.
 - x = 16 evenly divides all the elements in B.

Thus, we print **3** as our answer.

f ⊌ in Submissions: 48406 Max Score:10 Difficulty: Easy Rate This Challenge: $\triangle \triangle \triangle \triangle \triangle$ More

```
Current Buffer (saved locally, editable) & • •
                                                                                             Java 7
                                                                                                                               *
1 ▼ import java.io.*;
2 import java.util.*;
3 import java.text.*;
   import java.math.*;
   import java.util.regex.*;
6
7 ▼ public class Solution {
8
9 1
        static int getTotalX(int[] a, int[] b) {
10
             // Complete this function
11
12
        public static void main(String[] args) {
13 ▼
14
            Scanner in = new Scanner(System.in);
             int n = in.nextInt();
15
16
             int m = in.nextInt();
17 ▼
             int[] a = new int[n];
             for(int a_i = 0; a_i < n; a_i++){</pre>
18 ▼
19 ▼
                 a[a_i] = in.nextInt();
20
             int[] b = new int[m];
21 ▼
             for(int b_i = 0; b_i < m; b_i++){</pre>
22 ▼
23 ▼
                 b[b_i] = in.nextInt();
24
25
             int total = getTotalX(a, b);
26
             System.out.println(total);
27
             in.close();
28
29
    }
30
                                                                                                                       Line: 1 Col: 1
                      ☐ Test against custom input
                                                                                                          Run Code
                                                                                                                        Submit Code
```

Join us on IRC at #hackerrank on freenode for hugs or bugs.

1 Upload Code as File

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