Between Two Sets ★

There will be two arrays of integers. Determine all integers that satisfy the following two conditions:

1. The elements of the first array are all factors of the integer being considered

2. The integer being considered is a factor of all elements of the second array

These numbers are referred to as being between the two arrays. Determine how many such numbers exist.

Example

$a = [2, 6]$

$b = [24, 36]$

There are two numbers between the arrays: 6 and 12.

$6\%2 = 0$, $6\%6 = 0$, $24\%6 = 0$ and $36\%6 = 0$ for the first value.

$12\%2 = 0$, $12\%6 = 0$ and $24\%12 = 0$, $36\%12 = 0$ for the second value. Return 2.

Function Description

Complete the getTotalX function in the editor below. It should return the number of integers that are betwen the sets.

getTotalX has the following parameter(s):

- int a[n]: an array of integers
- int b[m]: an array of integers

Returns

- int: the number of integers that are between the sets

Input Format

The first line contains two space-separated integers, n and m, the number of elements in arrays a and b.

The second line contains n distinct space-separated integers $a[i]$ where $0 \leq i < n$.

The third line contains m distinct space-separated integers $b[j]$ where $0 \leq j < m$.

Constraints

- $1 \leq n, m \leq 10$
- $1 \leq a[i] \leq 100$

- $1 \leq b[j] \leq 100$

Sample Input

```
2 3
2 4
16 32 96
```

Sample Output

```
3
```

Explanation

2 and 4 divide evenly into 4, 8, 12 and 16.

4, 8 and 16 divide evenly into 16, 32, 96.

4, 8 and 16 are the only three numbers for which each element of a is a factor and each is a factor of all elements of b.

Change Theme Language Python 3

```
#  1. INTEGER_ARRAY a
#  2. INTEGER_ARRAY b
#

def getTotalX(a, b):
    # Write your code here
    maxA = max(a)
    minB = min(b)
    count = 0
    for i in range(maxA, minB+1):
        if all([i%j==0 for j in a]):
            if all([j%i==0 for j in b]):
                count += 1
    return count


if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    first_multiple_input = input().rstrip().split()

    n = int(first_multiple_input[0])

    m = int(first_multiple_input[1])

    arr = list(map(int, input().rstrip().split()))

    brr = list(map(int, input().rstrip().split()))

    total = getTotalX(arr, brr)

```

```
45      fptr.write(str(total) + '\n')
46
47      fptr.close()
48
```

Line: 42 Col: 1

Upload Code as File | Test against custom input | Run Code | Submit Code

You have earned 10.00 points!

You are now 99 points away from the 3rd star for your problem solving badge.

1% 101/200

Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

- Test case 0
- Test case 1
- Test case 2
- Test case 3
- Test case 4
- Test case 5
- Test case 6

Compiler Message

Success

Input (stdin) Download

```
2 3
2 4
16 32 96
```

Expected Output Download

```
3
```