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Test Name:	**Mock Test**
Taken On:	6 Jul 2025 03:59:12 IST
Time Taken:	20 min 24 sec/ 30 min
Invited by:	Ankush
Invited on:	6 Jul 2025 03:59:06 IST
Skills Score:	
Tags Score:	Algorithms 105/105 Core CS 105/105 Data Structures 105/105 Easy 105/105 LCM 105/105 Least Common Multiple 105/105 Math 105/105 gcd 105/105 greatest common divisor 105/105 problem-solving 105/105 sets 105/105

100%

105/105

scored in **Mock Test** in 20 min 24 sec on 6 Jul 2025 03:59:12 IST

Recruiter/Team Comments:

No Comments.

Question Description	Time Taken	Score	Status
Q1 **Between Two Sets** > **Coding**	20 min 6 sec	105/ 105	✓

QUESTION 1

Correct Answer

Score 105

Between Two Sets > Coding

Math | Algorithms | Easy | gcd | Data Structures | LCM | sets | problem-solving | Core CS | greatest common divisor | Least Common Multiple

QUESTION DESCRIPTION

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.

CANDIDATE ANSWER

Language used: **C++14**

```
/*
 * Complete the 'getTotalX' function below.
 *
 * The function is expected to return an INTEGER.
 * The function accepts following parameters:
 *  1. INTEGER_ARRAY a
 *  2. INTEGER_ARRAY b
 */

bool isFactor(int number, vector<int> a, vector<int> b)
{
```

```
    for(int i = 0; i < a.size(); i++)
    {
        if(number % a[i] != 0) // check if a[i] is not a factor of number
        {
            return false;
        }
    }

    for(int i = 0; i < b.size(); i++)
    {
        if(b[i] % number != 0) // check if number is not a factor of b[i]
        {
            return false;
        }
    }
    return true;
 }

int getTotalX(vector<int> a, vector<int> b)
{
    int start = a[a.size()-1];
    int end = b[0];

    int count = 0;

    for(int i = start; i < end+1; i++)
    {
        if(isFactor(i, a , b))
        {
            count++;
        }
    }
    return count;
}
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0105 sec	8.63 KB
Testcase 2	Easy	Hidden case	Success	15	0.0096 sec	8.63 KB
Testcase 3	Easy	Hidden case	Success	15	0.0102 sec	8.63 KB
Testcase 4	Easy	Hidden case	Success	15	0.0086 sec	8.63 KB
Testcase 5	Easy	Hidden case	Success	15	0.0083 sec	8.63 KB
Testcase 6	Easy	Hidden case	Success	15	0.0091 sec	8.5 KB
Testcase 7	Easy	Hidden case	Success	15	0.0087 sec	8.63 KB
Testcase 8	Easy	Hidden case	Success	15	0.0081 sec	8.38 KB
Testcase 9	Easy	Sample case	Success	0	0.0085 sec	8.63 KB

No Comments