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Test Name:	**Mock Test**
Taken On:	6 Apr 2023 18:28:52 IST
Time Taken:	17 min 5 sec/ 30 min
Invited by:	Ankush
Invited on:	6 Apr 2023 18:28:43 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 17 min 5 sec on 6 Apr 2023 18:28:52 IST

Recruiter/Team Comments:

No Comments.

Question Description	Time Taken	Score	Status
Q1 **Between Two Sets** > **Coding**	16 min 58 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**

```c
#include <stdio.h>
int UCLN(int a, int b)
{int max;
    if (a > b)
    {

        for (int i = 1; i <= b; i++)
        {
            if (b % i==0){
                if (a% i == 0)
```

```
                    max = i;
                }
            }
            return max;
        }
        if (a < b)
        {
            for (int i = 1; i <= a; i++)
            {
                if (a % i == 0) {
                    if (b% i == 0)
                        max = i;
                }
            }
            return max;

        }
        else return a;
}
int main(){
    int n1,n2,a[1000],b[1000];
    scanf("%d%d",&n1,&n2);
    int BCNN=1;
    for(int i=0;i<n1;i++) {
        scanf("%d",&a[i]);
        BCNN=BCNN*a[i]/UCLN(BCNN,a[i]);
    }
    int minB=1000000;
    for(int i=0;i<n2;i++) {
        scanf("%d",&b[i]);
        if(b[i]<minB ) minB=b[i];
    }
    int min=1000000;
    int result=0;
    for(int i=1;i<=minB/BCNN;i++){
        int count=0;
       for(int j=0;j<n2;j++){
           if (b[j]%(BCNN*i)!=0) count=1;
       }
       if(count==0) result+=1;
    }
    printf("%d",result);
}
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0677 sec	7.38 KB
Testcase 2	Easy	Hidden case	Success	15	0.0529 sec	7.51 KB
Testcase 3	Easy	Hidden case	Success	15	0.0295 sec	7.42 KB
Testcase 4	Easy	Hidden case	Success	15	0.0779 sec	7.5 KB
Testcase 5	Easy	Hidden case	Success	15	0.0278 sec	7.5 KB
Testcase 6	Easy	Hidden case	Success	15	0.0896 sec	7.31 KB
Testcase 7	Easy	Hidden case	Success	15	0.0415 sec	7.46 KB
Testcase 8	Easy	Hidden case	Success	15	0.0213 sec	7.38 KB
Testcase 9	Easy	Sample case	Success	0	0.0418 sec	7.3 KB

No Comments