Between Two Sets

HackerRank

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

Constraints

- $1 \le n,m \le 10$
- $1 \le a[i] \le 100$
- $1 \le b[j] \le 100$

Sample Input

23 24

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.