Game of Numbers

ALL SUBMISSIONS MY SUBMISSIONS SUBMIT

Problem code: GNUM

Read problems statements in Mandarin Chinese and Russian.

Mr. Yagami is playing a game of numbers. He has two arrays, each of size **N** denoted by $A_1,A_2...A_N$ and $B_1,B_2...B_N$.

Now, he has to make a move each minute. Let us maintain two sets **S1** and **S2** which are empty intially. In one move , first he'll pick a pair of indexes **(i, j)** such that it's already not present in **S1**. Also, $B_j > A_i$ and $GCD(A_i,B_j)$ is not **1**. Further, he'll pick another pair of indices **(p, q)** such that it's already not present in **S2**. Also, $B_p < A_q$ and $GCD(A_q,B_p)$ is not **1**. Also, $GCD(A_q,B_p)$ should not be coprime to $GCD(A_i,B_j)$. And, he'll add both pair of indices to **S1** and **S2**, respectively.

Help Mr. Yagami by printing the largest number of moves he can perform.

Input

First line contain **T**, the number of testcases. Each testcase consists of **N** in one line, followed by two lines of **N** space separated integers each, denoting arrays **A** and **B**, respectively.

Output

For each testcase, print the maximum number of moves Mr. Yagami can make, in one line.

Constraints

- $1 \le T \le 10$
- $1 \le N \le 400$
- $1 \le A_i, B_i \le 10^9$

Example

Input:
2
4
2 5 6 14
3 4 7 10
2
2 3
5 7

Output:
3
0

Explanation

First testcase:

Following are the possible moves denoting by (i,j) and (p,q)

1st move: (1,2) and (2,3)

2nd move: (1,4) and (2,4)

3rd move: (3,4) and (4,4)

In any possible combination not more than 3 moves are possible.

Second testcase:

No move is possible.

Author: darkshadows

SUCCESSFUL SUBMISSIONS

User	Time	Mem	Lang	Solution
ACRush	2.76	158.8M	C++ 4.3.2	View
flaminrage	4.50	4M	C++ 4.8.1	View
rns4	4.97	205.1M	C++ 4.8.1	View
allin	5.25	3.4M	C++ 4.8.1	View
lyrically	5.25	72.1M	C++11	View
anton_lunyov	5.34	4.2M	C++11	View
shenjiaqi	5.36	3.5M	C++11	View
sansirowaltz	5.57	161.4M	PAS fpc	View
manofsteel	5.86	6.8M	C++ 4.3.2	View
kennethsnow	5.98	339.8M	C++11	View
johnathan79717	6.18	3.4M	C++11	View
ruthles	6.18	23.2M	C++ 4.8.1	View

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SUBMIT

Comments

nobeita *@ 4 Jul 2014 03:48 PM*

3rd move should be (3,4) and (4,4). in testcase 1 ..??

darkshadows *@ 4 Jul 2014 05:55 PM*

@nobeita: It will be updated soon. Thanks!

Need help? Post a comment. But before that please spare a moment to read the **guidelines**.

Your name:
freeman92

Comment: *

Save

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