Chef and GCD

Problem Code: **CHFGCD**

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Chef has two positive integers X and Y. Now Chef wants to perform some number of operations (possibly zero) on them. In each operation, Chef can choose either X or Y and increment it by 1. Find the minimum number of operations Chef

needs to perform so that there is a positive integer strictly greater than 1 which divides both X and Y (In other words, the greatest common divisor of X and Y should be greater than 1).

Input Format

- The first line contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first and only line of each test case contains two integers X and Y.

Output Format

For each test case, print a single line containing one integer — the minimum number of operations Chef needs to perform.

Constraints

- $1 \leq T \leq 10^5$
- $1 \leq X, Y \leq 10^9$

Sample Input 1

```
2
4 16
4 55
```

Sample Output 1

```
0
1
```

Explanation

Test Case 1: The greatest common divisor of 4 and 16 is 4 which is already greater than 1, so Chef will not perform any operations.

Test Case 2: Chef will perform one operation and add 1 to 55. Now the greatest common divisor of 4 and 56 is 4 which is greater than 1.

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Editorial:	https://discuss.codechef.com/problems/CHFGCD (https://discuss.codechef.com/problems/CHFGCD)
Tags:	Tags are hidden. Show temporarily
	Update this setting in edit profile (/users/madg10/edit#additional_info)
Date Added:	12-07-2021
Time Limit:	0.5 secs
Source Limit:	50000 Bytes
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CodeChef was created as a platform to help programmers make it big in the world of **algorithms**, **computer programming**, and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and two smaller programming challenges at the middle and end of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

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