Problem E. Easy Measurements

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	512 megabytes

Edward was tasked to measure the pumping rate of two water pumps. To do so, he used the pumps to pump water into a water tank and checked how much water was pumped into the tank in a specific time.

He found out that the first pump pumps a liters of water in b seconds, and the second pump pumps c liters of water in d seconds. He also discovered that when both pumps are used at the same time, together they pump b liters of water in d seconds.

Unfortunately, Edward has spilled some water on his records, so now he can't recover the values a and c. However, he remembers that these values were positive integers. Now he wonders how many ways are there to choose the values a and c that are consistent with his measurements.

Input

The first line contains an integer n ($1 \le n \le 1000$) — the number of test cases.

Each of the next n lines contains two integers b and d ($1 \le b, d \le 10^9$).

Output

For each test case, output a single integer — the number of ways to choose a and c. Output each answer on a separate line.

Example

standard input	standard output
3 9 6 40 60 60 40	4 13 29

Note

In the first test case, the possible values are $a = 3$, $c = 7$; $a = 6$, $c = 5$; $a = 9$, $c = 3$; and $a = 12$, $c = 1$.