

DWITE '10 R3 #1 - Integers along a line

Time limit: 2.0s **Memory limit:** 64M

DWITE Online Computer Programming Contest, December 2010, Problem 1

When talking about points on the Cartesian plane, most people tend to deal only with points with integer coordinates (i.e. points whose x and y coordinates are integers). Given a line segment with integer coordinates, you are curious about how many points on the line segment (other than the endpoints) have integer coordinates.

The input will contain 5 lines, each line having 4 integers $-1000 \leq A, B, X, Y \leq 1000$, where (A, B) describes one endpoint of a line, and (X, Y) describes another.

The output will contain 5 lines, each line containing the number of points along the line (not including the endpoints) that fall on the integer coordinates.

Sample Input

```
0 0 2 2
-1 -2 1 1
```

Sample Output

```
1
0
```

Problem Resource: [DWITE](#)