Bloomberg CODECON

Memory Limit: 1024 MB
Time Limit: 5 s

Diamonds in the Rough (300 points)

Introduction

A rectangular field has diamonds buried in it uniformly in both directions; the diamonds are all buried at **integral** coordinates (ex. (1,1), (2,3)). You can assume that the field is the positive XY quadrant (where both x,y are positive) and it's infinitely large. Now, imagine that you were to dig a triangle-shaped hole to retrieve some diamonds. Given the vertices of the triangle, determine how many diamonds you'd find in that triangle. The vertices of the triangle can have any real positive coordinates.

Assumptions:

- The diamonds are all point-sized.
- Any diamond lying on the border of the triangle is considered to be part of the triangle
- The vertices of the triangle form a valid triangle lying in the positive quadrant

Input Specifications

The command line arguments shall consist of 6 real numbers, which represent the coordinates of the triangle in the format - x1 y1 x2 y2 x3 y3

Output Specifications

Your output will be the number of diamonds lying in the triangle.

Sample Input/Output

Input

```
1.0 1.0 2.0 1.0 1.5 2.0
```

Output

2

Explanation

The diamonds lie on the coordinates (1.0,1.0) and (2.0,1.0).