15-th Bulgarian National Olympiad in Informatics

May 15 and 16, 1999

Final round

Problem 3. Point of view

In the plane, there are given N straight line segments (1 <= N <= 1000). Their endpoints have nonnegative integer coordinates not exceeding 20000. The line of each segment and the coordinate axes form together a right isosceles triangle. No any two segments have a common point.

We say, that a segment is visible from the origin O of the coordinate system, if there exists a point X on the segment, so that line segment OX does not intersect any other given segment.

Write a program GLE.EXE, that on given set of line segments, finds out the number of these segments, which are visible from the origin O.

The **input** data are read from text file GLE.INP. The first row contains number N of the segments. Any one of the next N rows contains four positive integers, X1, Y1, X2 and Y2, separated by a space. The first pair represents coordinates of one endpoint, whereas the second pair represents coordinates of another endpoint of the corresponding segment.

The **output** must be written into a text file GLE.OUT with a single row containing the obtained result.

An example:

Input:

```
4
3 13 11 5
14 1 10 5
10 14 20 4
5 6 10 1
```

Output:

```
3
```

Source is taken from the site iNFORMATIkA:
(http://www2.math.bas.bg/inf/resource/sources/olymp/99round4/tasks.zip)

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