Project Euler #102: Triangle containment

Three distinct points are plotted at random on a Cartesian plane, for which $-1000 \le x,y \le 1000$, such that a triangle is formed.

Consider the following two triangles:

$A(-340,495), B(-153,-910), C(835,-947)$
$X(-175,41), Y(-421,-714), Z(574,-645)$

It can be verified that triangle ABC contains the origin, whereas triangle XYZ does not.

You are given co-ordinates of N "random" triangles, find the number of triangles for which the interior contains the origin.

Input Format
First line contains an integer N i.e. number of triangles, followed by N lines each having 6 space separated integers $(x\_1, y\_1, x\_2, y\_2, x\_3, y\_3)$ representing a triangle.

Constraints
$1 \le N \le 10^5$
$-10^6 \le x\_i, y\_i \le 10^6$

Output Format
Print 1 line, the number of triangles that contain origin.

Sample Input

```
2
-1 -2 1 -2 1 3
-2 -1 -2 1 -1 2
```

Sample Output

```
1
```