

NATIONAL OLYMPIAD IN INFORMATICS

First round

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Group A

Task A. LINES

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N lines are described by their coefficients a , b , and c (integers) in the general equation $ax + by + c = 0$. Some of the given couples of lines are parallel, probably there equivalent lines, other intersect.

Two lines belong the same **class**, if they are parallel or coinciding.

Write a program **LINES** which finding the number of differen lines as well as the number of different line classes.

Input:

- The first line of the standard input contains the number N of all lines.
- Each of next N lines of the standard input contains three integers separated by space – the coefficients in the general equation of the respective line.

Output:

- The standard output should consists of two rows containing only one integer each.
- The integer on the first row should correspond to the number of different lines.
- The integer on the second row should correspond to the number of different line classes.

Restrictions:

- $N \leq 1000$.
- Each of the coefficients a , b , c is an integer in the interval $[-1000; 1000]$.
- For each line the couple $(a, b) \neq (0, 0)$.

Example:

Input:

```
6
1 -1 2
2 3 -4
-3 3 -6
-4 10 8
6 -15 -20
-2 5 4
```

Output:

```
4
3
```