FINES - FREE ROUTE

(This is a fictional story, so it does not encourage or endorse any illegal activities in real life.)

Lynn finds reading multiple documents stressful, prompting her to seek stress relief by cruising around the city on her motorbike. However, her hobby sometimes leads to fines, and she's grown tired of paying them.

Interestingly, Lynn has noticed that police officers are only present on roads connecting different zones in the city. In simpler terms, if a road is the sole route between points A and B, it will have police officers.

Given the map of the city, Lynn wants your help in pinpointing these roads so she can navigate them more cautiously and avoid further fines.

1 Input

- The first line contains an integer $n\_locations$ ($0 < n\_locations \leq 3 * 10^4$) indicating the number of locations of the city
- The next lines contain 2 integers $location\_1$ and $location\_2$ each ($0 \leq location\_1, location\_2 \leq n\_locations - 1$) indicating that there is a road connecting $location\_1$ and $location\_2$. The number of these roads will not exceed $2 * 10^5$.
- The input is terminated by a line containing two numbers -1.

2 Output

One line containing the number of roads where she must ride more carefully.

3 Example

Input:

```
5
0 1
0 2
4 3
1 2
4 2
-1 -1
```

Output:

```
2
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