

# Gift

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            1 second  
Memory limit:         256 megabytes

Given an undirected graph with  $n$  vertices and  $n$  edges, you need to calculate how many ways there are to choose a vertex  $p$  and an edge  $(x, y)$  such that, after removing the edge  $(x, y)$ , the graph becomes a tree, and when this tree is rooted at  $p$ , each node has no more than 3 children. It is guaranteed that there is at least one possible plan.

## Input

The first line of the input contains a single integer  $n$  ( $2 \leq n \leq 10^5$ ).

The next  $n$  lines of the input describes the edges of the graph. The  $i$ -th line of these lines contains two integers  $x_i$  and  $y_i$  ( $1 \leq x_i, y_i \leq n$ ,  $x_i \neq y_i$ ), indicating the  $i$ -th edge.

It is guaranteed that there are no multiple edges or self loops in the graph.

## Output

Output a single line contains a single integer, indicating the answer.

## Example

standard input	standard output
6 1 2 1 3 1 4 1 5 1 6 2 3	10