

# C. An Easy Problem

Score: 1

CPU: 2.5s

Memory: 512MB

A tree is a connected acyclic graph. A simple path on a tree is a path that doesn't visit any vertex more than once.

You're given a tree which has a decimal digit written on each of its edges. Lets call a simple path on this tree from  $u$  to  $v$  good if  $u < v$  and the digits written on it can be **rearranged** to form a palindrome. For example, if the digits written on the path are 1, 1 and 0, then they can be rearranged as 101 which is a palindrome.

You have to count the number of good paths in this tree.

## Input

Input starts with an integer  $t$  ( $1 \leq t \leq 200$ ), denoting the number of test cases. Each case begins with an integer  $n$  ( $1 \leq n \leq 10^5$ ) representing the number of nodes in tree. Next  $n-1$  lines will each contain three integers  $u \ v \ d$  ( $1 \leq u, v \leq n, 0 \leq d \leq 9$ ), which means there is an edge between  $u$  and  $v$  which has the digit  $d$  written on it.

Summation of  $n$  over all testcases doesn't exceed  $10^6$ .

## Output

For each test case print the number of good paths in a single line. See the sample output for details.

## Sample

Input	Output
2	5
4	16
1 2 0	
2 3 0	
3 4 1	
7	
1 2 9	
1 3 1	
1 4 9	
1 5 0	
3 6 1	
2 7 9	