C. Average distance

Time Limit: 2.0 Seconds Memory Limit: 65536K Special Judge

Given a tree, calculate the average distance between two vertices in the tree. For example, the average distance between two vertices in the following tree is ($d_{01} + d_{02} + d_{03} + d_{04} + d_{12} + d_{13} + d_{14} + d_{23} + d_{24} + d_{34}$)/10 = (6+3+7+9+9+13+15+10+12+2)/10 = 8.6.

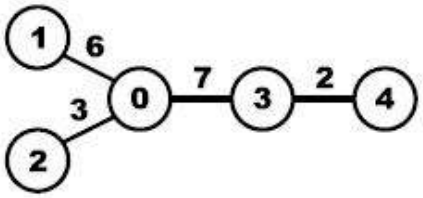

Figure 1: The first sample case

Input

On the first line an integer t ($1 \leq t \leq 100$): the number of test cases. Then for each test case:

- One line with an integer n ($2 \leq n \leq 10000$): the number of nodes in the tree. The nodes are numbered from 0 to n - 1.
- n - 1 lines, each with three integers a ($0 \leq a < n$), b ($0 \leq b < n$) and d ($1 \leq d \leq 1000$). There is an edge between the nodes with numbers a and b of length d. The resulting graph will be a tree.

Output

For each testcase:

- One line with the average distance between two vertices. This value should have either an absolute or a relative error of at most 10^{-6}.

Sample Input

```
1
5
0 1 6
0 2 3
0 3 7
3 4 2
```

Sample Output

```
8.6
```

Note: Special judge problem, you may get "Wrong Answer" when output in wrong format.

Source: TJU Team Selection Contest 2008 (2)

Problem ID in problemset: 2930

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