Problem C
Conquer The World
Time limit: 8 seconds

Bwahahahahaha!!! Your nemesis, the dashingly handsome spy Waco Powers, has at last fallen to your secret volcano base's deathtraps (or so you assume, being a little too busy to witness it firsthand). At long last, you are all set to CONQUER THE WORLD!

Nothing will stand in your way! Well, nothing except a minor problem of logistics. Your evil armies have announced that they will not continue carving their relentless path of destruction across the puny nations of the world without being paid. And unfortunately you are running low on cash – a volcano lair has many wonderful qualities, but "reasonably affordable" is not one of them. You have had to pull funds from the travel budget to pay your ungrateful underlings. Now you are not sure how you will actually get your armies into position to CONQUER THE WORLD.

You have a map of the nations of the world and all your available transport routes between them. Each route connects two nations and has a fixed cost per army that uses it. The routes are laid out such that there is exactly one way to travel between any two nations. You know the current position of each of your armies and how many you will need to place permanently in each nation in order to subjugate it. How can you move the armies into place as cheaply as possible so you can CONQUER THE WORLD?

Input

The first line of input contains an integer n ($1 \leq n \leq 250\,000$), the number of nations. This is followed by $n-1$ lines, each containing three integers u, v, and c ($1 \leq u, v \leq n$, $1 \leq c \leq 10^6$), indicating that there is a bidirectional route connecting nations u and v, which costs c per army to use.

Finally, another n lines follow, the i^{th} of which contains two non-negative integers x_i and y_i, indicating that there are currently x_i armies in nation i, and you need at least y_i armies to end up in that nation in the final configuration. The total number of armies (the sum of the x_i values) is at least the sum of the y_i values, and no more than 10^6.

Output

Display the minimum cost to move your armies such that there are at least y_i armies in nation i for all i.

Sample Input 1	Sample Output 1
3 1 2 5 3 1 5 2 1 5 0 1 3	15

Sample Input 2	Sample Output 2
6 1 2 2 1 3 5 1 4 1 2 5 5 2 6 1 0 0 1 0 2 1 2 1 0 1 0 1	9