2018 BYWAY

Change is coming to that sleepy knot of villages known as *The Endians*. Long established businesses are selling off long forgotten warehouses. You can hardly move without being stopped to help with a short survey. The local byways are struggling to keep up with the demand.

Each byway connects two villages and takes a fixed amount of time to travel along (in either direction). It is possible to travel between any two villages, either by a direct byway or along a sequence of byways. A recent petition by local businesses — *Better Byway Bylaw (B)* — has been successful and one of the byways will be upgraded, halving the time required to travel along it.

For example, suppose that the following byways (1–2, 2–3, 3–4) exist and take 10 to travel, and that a byway 1–4 exists and takes 40 to travel:

- The fastest journey from 1 to 4 is the route 1–2–3–4 which takes 30;
- Upgrading one of the byways on this route will reduce the time to 25;
- Alternatively, upgrading the 1–4 byway gives a journey from 1 to 4 (along this byway) with a time of 20.

SAMPLE INPUT

```
4
1 2 10
2 3 10
4 3 10
4 1 40
-1 -1 -1
```

The first line of input will consist of a single integer v, ($2 \leq v \leq 2^{12}$), indicating the number of villages. Each successive line will consist of a pair of integers, indicating two villages directly connected by a byway, followed by an *even* integer t, ($2 \leq t \leq 2^{50}$), indicating the time it takes to traverse that byway (in either direction). Each byway will be given once. The input will be terminated by the line `-1 -1 -1`.

SAMPLE OUTPUT

```
20
```

You should output a single number, indicating the fastest time to travel between villages 1 and v, when one byway has been upgraded to minimise the fastest time.