Local Area Network (Easy)

Local Area Network (LAN) needs multiple Switches. The tranmission time is proportional to the length of the wire (skip the role of Switch). Find the longest distance from the Internet Network Provider (ID 0) to a customer.

Input

The first line is an integer N (1<=N<=10^5) - the number of switches

N-1 next lines each contains three integers u, v and w which denote switch u is connected to switch v by cable with length w (1<=w<10^5, 0<=u,v<n)

Output

Print out the longest tranmission distance from the network provider

Example

Input:
4
0 1 2
0 2 2
0 3 3
Output:
3

Input:
5
0 1 2
0 2 2
0 3 3
2 4 2
Output:
4