GT2// Hungry Students

It's pizza time and the CS Student at Massey are at different locations for the end of the year CS pizza party. Zhehai makes an announcement through the dusty PA system. Your job is to figure out which one CS student gets to the pizza first (the supplied test data will always have exactly one fastest student).

Before the party, each student is located in their own room (lonely individuals), though some rooms have no students in them. Each room is connected by a hallway to one or more other rooms (potentially including itself). Sometimes, two (potentially self-same) rooms are connected by more than one hallway (Massey is getting weird). One or more of the rooms has a path to Room 149 (the pizza room). Thus, all students have a hallway to the Room 149 and they always know the shortest path. Of course, students can go either direction in a hallway and they all walk at the same speed (careful with laptops).

The rooms are labeled `a'..`z' and `A'..`Y'. One student is in each pasture labeled with a capital letter. No student is in a pasture labeled with a lowercase letter. Room 149 has the label `Z'; no students are in the ‘Z’, though.

Input Specification:
Line 1: Integer P (1 <= P <= 10000) the number of paths that interconnect the rooms (and Room 149)
Line 2…: Space separated, two letters and an integer: the names of interconnected rooms and the distance between them (1 <= distance <= 1000)

Output Specification:
A single line containing two items: the capital letter name of the room of the student that arrives first back at Room 149, the length of the path followed by that student.

Sample Input:
5
A d 6
B d 3
C e 9
d Z 8
e Z 3

Sample Output:
B 11