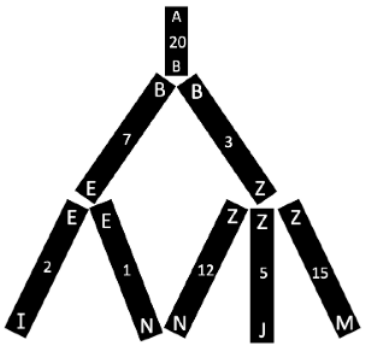
3 Plinko Pipes

You and your friends decide to spend your Saturday at the local carnival. You quickly spot out your favorite carnival game: Plinko! Except this isn't your typical game of Plinko. Instead of pegs on a board, there is a single pipe that you drop your chip in at the top, and the pipes divide and split up towards the bottom of the board. In addition, you earn points based off what pipes your chip travels through. As your chip falls down more and more pipes, you accumulate more and more points.

The Plinko board is made up of pipes that are letter labeled at their top end and bottom end, and each pipe has a point value. You are provided the relations of the pipes based on their connections to the other pipe ends on the board. The relations given indicates a connection of the pipes like "which pipe leads into which other pipes."

Below you will find an example of these relations, and the visual representation of them:

`Z-15-M,A-20-B,E-1-N,Z-12-N,B-3-Z,B-7-E,E-2-I,Z-5-J`



You drop your chip in the pipe at the top of the Plinko board (in this case, through the top of pipe A-20-B) but before you know it, your chip is at the bottom. You weren't looking and the chip is laying on the ground beneath both pipes labeled N at the bottom.

Given the relations above, can you find all the possible pipe paths that your chip could have traveled travel through if it ended up at the bottom of pipe N?

3.1 Input

Input will be a single string, and the format is A-1-B,B-2-C,...,C where the final letter on its own represents the end of the pipe your chip lands at. Each comma separated group of characters represents a pipe, where the first letter is the top of the pipe, the number in between the two hyphens is the point value, and the last letter is the end of the pipe.

In the 1st sample output provided, the last letter is N and hence, we want to figure out how many different combinations of points you could have received if your chip ended up at the bottom of pipe N.

Note: The pipe relations are provided in a random order.

3.2 Output

Your output will be all of the different totals of points you could have received. For each path your chip could have traveled, sum up the point values of each pipe the chip passes through.

If there is just one possible point total, print it out. If there are multiple possible point totals, separate the totals with a comma, and print them out in **ascending order.**

In the 1st sample output provided below, the output would be 28,35:

28 points if the chip traveled along the path: A-20-B,B-7-E,E-1-N

35 points if the chip traveled along the path: A-20-B,B-3-Z,Z-12-N

3.3 Sample Input/Output

Sample Input 1	**Sample Output 1**
Z-15-M,A-20-B,E-1-N,Z-12-N,B-3-Z,B-7-E,E-2-I,Z-5-J,N	28,35
Sample Input 2	**Sample Output 2**
C-10-D,A-3-B,B-7-C,D	20

NOTE: A newline was added to end of each sample to be easier to read, there is NOT an empty newline at the end of each input/output for the problem.

3.4 Assumptions

- There is one and only one pipe at the top of the Plinko board that you drop your chip in
- Point values of a pipe are non-negative
- Pipes can connect to any number of other pipes