

Problem E. Keeping thins in order

Source file name: E.c, E.cpp, E.java, E.py
Input: Standard
Output: Standard

In this problem, you are given a series of lists containing words and numbers. Your task consists on sorting them so that the words are in alphabetical order, and the numbers in numerical order. There is one catch though: if the k -th element of the list is a number, it must remain a number in the sorted list.

Input

The input will contain multiple lists, one per line, there will be no more than 10 lists in the input. Each element will be separated by a comma followed by a space, and the list will be terminated by a period. No list will contain more than 100 elements. The input will be terminated by a line containing only a period.

Output

For each list in the input, output the sorted list, separating each element of the list with a comma followed by a space, and ending the list with a period.

Example

Input
0. banana, strawberry, OrAnGe. Banana, StRaWbErRy, orange. 10, 8, 6, 4, 2, 0. x, 30, -20, z, 1000, 1, Y. 50, 7, kitten, puppy, 2, orangutan, 52, -100, bird, worm, 7, beetle. .
Output
0. banana, OrAnGe, strawberry. Banana, orange, StRaWbErRy. 0, 2, 4, 6, 8, 10. x, -20, 1, Y, 30, 1000, z. -100, 2, beetle, bird, 7, kitten, 7, 50, orangutan, puppy, 52, worm.