

C: Class Time

Time Limit: 1 second(s)

It's the first day of class! Tom is teaching class and first has to take attendance to see who is in class. He needs to call the students' names in alphabetical order by last name. If two students have the same last name, then he calls the students with that same last name in alphabetical order by first name. Help him!

Input

The first line of input contains an integer n ($1 \leq n \leq 100$), the number of students in Tom's class. Each of the following n lines contains the name of a single student: first name, followed by a single space, then last name. The first and last name both start with an upper-case letter ('A'–'Z') and these are followed by one or more lower-case letters ('a'–'z'). The first and last name of each student is no more than 10 letters long each.

It is guaranteed that no two students have exactly the same name, though students may share the same first name, or the same last name.

Output

Output n lines, the names of the students as Tom calls them in the desired order.

Sample Input and Output

Sample Input 1	Output for Sample Input
3 John Adams Bob Adam Bob Adams	Bob Adam Bob Adams John Adams

Sample Input 2	Output for Sample Input
1 Coursera Educators	Coursera Educators