

Problem 4 – Weightlifting

Soon there will be a world championship on Weightlifting and all the famous players are preparing for it. As a coach of an international team, your job is to ensure each player has sufficient training, but is not exhausted more than he should. Every day you prepare a list of exercises and at the end of the day you want to know how much the players have trained. The list will be a sequence of **N** lines holding the exercises of the players in your team for that day.

Write a program that prints **all players in alphabetical order**. For each player, the program should print the **type of exercise** and the total weight the player has lifted doing that exercise. The **exercises** should be **ordered alphabetically** for each player.

Input

The input comes from the console. The first line holds the length of the input list **N**.

On the next **N** lines, there will be information about the exercises for that day in the following format: “<player> <exercise> <weight> kg”.

The input data will always be valid and in the format described. There is no need to check it explicitly.

Output

Print at the console **one line for each player** in the following format: <player> : <exercise> - <weight> kg, <exercise> - <weight> kg,...

Constraints

- The **count N** will be an integer number in the range [1...50].
- The **weight** will be a positive integer number.
- The input **lines** may hold **any ASCII character**.
- Time limit: 0.2 sec. Memory limit: 16 MB.

Examples

Input	Output
6 Jack Squat 200 kg John Deadlift 220 kg John Squat 150 kg Jack Deadlift 120 kg John Benchpress 200 kg John Squat 140 kg	Jack : Deadlift - 120 kg, Squat - 200 kg John : Benchpress 200 kg, Deadlift - 220 kg, Squat - 290 kg
Input	Output
5 Mark Squat 500 kg John Deadlift 220 kg Mark Squat 50 kg Mark Deadlift 120 kg John Squat 200 kg	John : Deadlift - 220 kg, Squat - 200 kg Mark : Deadlift - 120 kg, Squat - 550 kg