Problem 4 – Nuts

You are given a sequence of **n** companies in format **<company> <nuts> <amount>**. Example:

- KingNuts almonds 250kg
- Rois cashews 14kg
- EatYourNuts almonds 15kg
- Rois wallnuts 14kg
- EatYourNuts brazilnuts 15kg
- Rois wallnuts 14kg
- EatYourNuts almonds 15kg

Write a program that prints **all companies** by name **alphabetically**. For each company print the **type of nuts** they ordered and sum the ordered amounts. Order the nuts by **order of appearance**. Print the result in the following format: **<company>: <nut> <amount>kg, <nut> <amount>kg,…** For the orders above the output should be:

- EatYourNuts: almonds-30kg, brazilnuts-15kg
- KingNuts: almonds-250kg
- Rois: cashews-14kg, wallnuts-28kg

Input

The input comes from the console. At the first line the number **n** stays alone. At the next **n** lines, we have **n** orders in format **<company> <nut> <amount>kg**.

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

Output

Print **one line for each company**. Company lines should be ordered in **alphabetical order**. For each company print the **nuts** ordered by this company in **order** of **appearance**, along with the total amount of nuts followed by **"kg"**, each company in format **<company>: <nut>-<amount>, <nut>-<amount>, …**

Constraints

- The **count** of the lines **n** will be in the range [1…100].
- The **<company>** and **<nut>** will consist of only of **Latin characters**, with length of [1…20].
- The **<amount>** will be integer number in the range [1…1000].
- Time limit: 0.3 sec. Memory limit: 16 MB.

Examples

Input	Output	Input	Output
7 KingNuts almonds 250kg Rois cashews 14kg EatYourNuts almonds 15kg Rois wallnuts 14kg EatYourNuts brazilnuts 15kg Rois wallnuts 14kg EatYourNuts almonds 15kg	EatYourNuts: almonds-30kg, brazilnuts-15kg KingNuts: almonds-250kg Rois: cashews-14kg, wallnuts-28kg	5 Nutie wallnuts 20kg Nutie almonds 20kg Nutie cashews 20kg Nutie cashews 20kg Nutie almonds 20kg	Nutie: wallnuts-20kg, almonds-40kg, cashews-40kg