Problem 4 – Office Stuff

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

- |SoftUni - 600 - paper|
- |Vivacom - 600 - pen|
- |XS - 20 - chair|
- |Vivacom - 200 - chair|
- |SoftUni - 40 - chair|
- |XS - 40 - chair|
- |SoftUni - 1 - printer|

Write a program that prints **all companies** in **alphabetical** order. For each company print the product type and their aggregated ordered amounts. Order the products by **order of appearance**. **Print** the result in the following format: **<company>: <product>-<amount>, <product>-<amount>,…** For the orders above the output should be:

- SoftUni: paper-600, chair-40, printer-1
- Vivacom: pen-600, chair-200
- XS: chair-60

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> - <amount> - <product>**|.

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 **products** ordered by this company in **order** of **appearance**, along with the total amount for the given product. Each line should be in format **<company>: <product>-<amount>, <product>-<amount>, … <product>-<amount>**

Constraints

- The **count** of the lines **n** will be in the range [1…100].
- The **<company>** and **<product>** 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 |SoftUni - 600 - paper| |Vivacom - 600 - pen| |XS - 20 - chair| |Vivacom - 200 - chair| |SoftUni - 40 - chair| |XS - 40 - chair| |SoftUni - 1 - printer|	SoftUni: paper-600, chair-40, printer-1 Vivacom: pen-600, chair-200 XS: chair-60	5 |SoftUni - 200 - desk| |SoftUni - 40 - PC| |SoftUni - 200 - desk| |SoftUni - 600 - paper| |SoftUni - 600 - textbook|	SoftUni: desk-400, PC-40, paper-600, textbook-600