

Lab: Objects and Classes

Test your tasks in the Judge system: <https://judge.softuni.org/Contests/4482>

1. Songs

Define a class called **Song** that will hold the following information about some songs:

- **Type List**
- **Name**
- **Time**

Input / Constraints

- On the first line, you will receive the **number of songs - N**.
- On the next **N** lines, you will be receiving data in the following format: "{typeList}_{name}_{time}".
- On the last line, you will receive **Type List** or "**all**".

Output

- If you receive **Type List** as an input on the last line, print out **only the names of the songs**, which are from that **Type List**.
- If you receive the "**all**" command, print out the names of **all the songs**.

Examples

Input	Output
3 favourite_DownTown_3:14 favourite_Kiss_4:16 favourite_Smooth Criminal_4:01 favourite	DownTown Kiss Smooth Criminal
4 favourite_DownTown_3:14 listenLater_Andalouse_3:24 favourite_In To The Night_3:58 favourite_Live It Up_3:48 listenLater	Andalouse
2 like_Replay_3:15 ban_Photoshop_3:48 all	Replay Photoshop

2. Students

Define a class called **Student**, which will hold the following information about some students:

- first name - string
- last name - string
- age - int
- home town - string

Input

Read information about some students, until you receive the "end" command.

After that, you will receive a **city name**.

Output

Print the students who are from the given city in the following format:

"{firstName} {lastName} is {age} years old."

Examples

Input	Output
John Smith 15 Sofia Peter Ivanov 14 Plovdiv Linda Bridge 16 Sofia Simon Stone 12 Varna end Sofia	John Smith is 15 years old. Linda Bridge is 16 years old.
Anthony Taylor 15 Chicago David Anderson 16 Washington Jack Lewis 14 Chicago David Lee 14 Chicago end Chicago	Anthony Taylor is 15 years old. Jack Lewis is 14 years old. David Lee is 14 years old.

3. Store Boxes

Define a class **Item**, which contains these properties: **Name** and **Price**.

Define a class **Box**, which contains these properties: **Serial Number**, **Item**, **Item Quantity** and **Price for a Box**.

Until you receive "end", you will be receiving data in the following format: "{Serial Number} {Item Name} {Item Quantity} {itemPrice}"

The **Price of one box** has to be calculated: **itemQuantity * itemPrice**.

Print all the boxes ordered descending by price for a box, in the following format:

{boxSerialNumber}

-- {boxItemName} - \${boxItemPrice}: {boxItemQuantity}

-- \${boxPrice}

The price should be **formatted to the 2nd digit after the decimal separator**.

Examples

Input	Output
19861519 Dove 15 2.50	37741865

86757035 Butter 7 3.20 39393891 Orbit 16 1.60 37741865 Samsung 10 1000 end	-- Samsung - \$1000.00: 10 -- \$1000.00 19861519 -- Dove - \$2.50: 15 -- \$37.50 39393891 -- Orbit - \$1.60: 16 -- \$25.60 86757035 -- Butter - \$3.20: 7 -- \$22.40
48760766 Alcatel 8 100 97617240 Intel 2 500 83840873 Milka 20 2.75 35056501 SneakersXL 15 1.50 end	97617240 -- Intel - \$500.00: 2 -- \$1000.00 48760766 -- Alcatel - \$100.00: 8 -- \$800.00 83840873 -- Milka - \$2.75: 20 -- \$55.00 35056501 -- SneakersXL - \$1.50: 15 -- \$22.50

4. *Vehicle Catalogue

Your task is to **create a Vehicle catalog**, which contains only **Trucks and Cars**.

Define a class **Truck** with the following properties: **Brand, Model, and Weight**.

Define a class **Car** with the following properties: **Brand, Model, and Horse Power**.

Define a class **Catalog** with the following properties: **Collections of Trucks and Cars**.

You must read the input, until you receive the **"end"** command. It will be in following format:

"{type}/{brand}/{model}/{horse power / weight}"

In the end, you have **to print all of the vehicles ordered alphabetical by brand**, in the following format:

"Cars:

{Brand}: {Model} - {Horse Power}hp

Trucks:

{Brand}: {Model} - {Weight}kg"

Examples

Input	Output
Car/Audi/A3/110 Car/Maserati/Levante/350 Truck/Mercedes/Actros/9019 Car/Porsche/Panamera/375 end	Cars: Audi: A3 - 110hp Maserati: Levante - 350hp Porsche: Panamera - 375hp Trucks: Mercedes: Actros - 9019kg
Car/Subaru/Impreza/152 Car/Peugeot/307/109	Cars: Peugeot: 307 - 109hp

end	Subaru: Impreza - 152hp
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