# Problem 4 – Gosho Is Moving

Gosho studies in SoftUni. He loves it there and he is a kind of addicted to the university. So when he found out that **SoftUni is moving** to a new location, he had to do the same. So, **Gosho is moving** as well. He packed his entire luggage into **luggage pieces**. There are **3 types** of luggage pieces: **furniture**, **boxes** and **bags**. Every luggage piece goes to a different **room**, has **weight** in kilograms and a **name**. Your task is to **process the luggage pieces** according to **Gosho's filters** and present them in an **appropriate format (unordered list).**

Gosho will give you as **input** a **list of all the luggage pieces** and **4 criteria to filter** them. The **list** is a **string** that holds **many luggage pieces**, separated by **"C|\_|"** (because after moving each luggage piece he needs to drink a beer!). The **luggage piece** is a **string** in the format: **"[luggage type];[room];[name];[weight]"**, for example: "furniture;living room;pink couch;40.85kg". Below is an example for entire list of luggage pieces.

The **1st filter** may contain **1, 2, 3 or none** luggage piece **types**. The **2nd filter** is the **room**. The **3rd and 4th filters** are the **minimum and maximum weight** of all the luggage pieces of one type for one room (the **sum** **of the weights** of **all** the luggage pieces of one type **in one room** is **not less than the minimum weight and less than or equal to the max weight**).

**Note:** All the **weight's values** must be **rounded down** to an **integer** number **first**. After that all the operations with them may be executed.

### Input

The input will be read from an **HTTP GET** **request**. The **list of the luggage pieces** will be received as a string from a **text** **area** with **name '** **luggage'**.

The **1st filter** will be received from a **checkbox** with **name 'typeLuggage'**. The **2nd filter** will be received from an **input text field** with **name 'room'.** The **3rd filter** will be received from an **input text field with** name **'minWeight'.** The **4th filter** will be received from an **input text field** with **name 'maxWeight'.**

### Output

The output are three levels of nested **unordered lists (UL)** with the luggage pieces that **pass all the filters**.

The **first level** **UL** has the **types of the luggage pieces**, sorted **alphabetically** as list items. Each **list item (type)** contains a **second level** nested **UL** that has the **room names** with that type of luggage pieces, sorted **alphabetically** as list items. Each **list item (room)** contains a **third level** nested **UL** that has **only one item** – the sequence of the **names** of the luggage pieces in the room, sorted **alphabetically** and **separated by a comma and a space**. On the same line is written the **sum of the weight** of all the luggage pieces in this room. Please **follow exactly** the example below.

If any **filter is empty**, the **output** must be a **single empty** unordered list: **"<ul></ul>"**.

### Constraints

* The **luggage pieces** will be in the format "[luggage type];[room];[name];[weight]"**.** The different values are separated by **‘;’.**
* The **room** will be a string, holding the **name of the room**.
* The **weight** will always contain a **floating point** **number** and the suffix **"kg"**. The **weight** and the **suffix** are not separated by any symbols or spaces.

### Examples

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| --- | --- | --- | --- | --- | --- |
| **Input** | | | | | |
| luggage | furniture;living room;pink couch;40.85kgC|\_|furniture;bedroom;night table;5.12kgC|\_|boxes;kitchen;plates;10.36kgC|\_|boxes;kitchen;cups;10.36kgC|\_|boxes;kitchen;tableware;7.6kgC|\_|boxes;living room;glasses;3.32kgC|\_|boxes;living room;dresses;4.32kgC|\_|bags;hall;shoes;5.9kgC|\_| | | | | |
| minWeight | | 5 |  | typeLuggage[] | ['furniture', 'boxes', 'bags'] |
| maxWeight | | 50 |  | room | 'living room' |

|  |
| --- |
| **Output** |
| <ul><li><p>boxes</p><ul><li><p>living room</p><ul><li><p>dresses, glasses - 7kg</p></li></ul></li></ul></li><li><p>furniture</p><ul><li><p>living room</p><ul><li><p>pink couch - 40kg</p></li></ul></li></ul></li></ul> |
| **Output (formatted)** |
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