**Feed the Animals**

*The sanctuary needs to provide food for the animals and feed them, so your task is to help with the process*

Create a program that organizes the **daily feeding** of **animals**. You need to keep information about **animals**, their **daily food limit** and the **areas** of the Wildlife Refuge **they** **live** **in**. You will be receiving **lines** with commands until you receive the **"Last Info"** message. There are two **possible** commands:

* **"Add:{animalName}:{dailyFoodLimit}:{area}":**
  + **Add** the **animal** and **its** **daily food limit** to your records. It is guaranteed that the **names** of the animals are **unique** and there will **never** be animals with the **same** name. **If** it already **exists**, just increase the value of the **daily** **food** **limit** with the **current** one that is **given**.
* **"Feed:{animalName}:{food}:{area}":**
  + **Check** if the animal **exists** and if **it does**, **reduce** its daily **food limit** with the given **food** **for** **feeding**. If its **limit** reaches **0** or **less**, the **animal** is considered **successfully fed** and you need to **remove** it from your **records** and **print** the following **message**:
    - **"{animalName} was successfully fed"**

You need to know **the count of** **hungry** **animals** there are left in **each area** in the end. If an animal has daily food **limit above 0**, it is considered **hungry**.

In the end, you have to **print each animal** with its **daily** food **limit** sorted in **descending order** by the **daily food limit** and **then by** its **name** in **ascending** order in the following format:

**Animals:**

**{animalName} -> {dailyFoodLimit}g**

**{animalName} -> {dailyFoodLimit}g**

Afterwards, **print** the **areas** with the **count of animals**, which are **not** **fed** in **descending** order by the **count** of **animals.** If an **area** has **0** **hungry animals** in it, **don't** print it. The **output** must be in the following **format**:

**Areas with hungry animals:**

**{areaName} : {countOfUnfedAnimals}**

**{areaName} : {countOfUnfedAnimals}**

## Input / Constraints

* You will be receiving linesuntil you receive the **"Last Info"** command.
* The **food** comes in **grams** and is an **integer** number in the range [1...100000].
* The input will **always** be **valid**.
* There will never be a case, in which an animal is in two or more areas at the same time.

## Output

* Print the appropriate message after the **"Feed"** command, **if** an **animal** is **fed**.
* Print the animals with their **daily food limit** in the **format** described above.
* Print the **areas** with the **count of unfed** **animals** in them in the **format** described above.

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Add:Maya:7600:WaterfallArea  Add:Bobbie:6570:DeepWoodsArea  Add:Adam:4500:ByTheCreek  Add:Jamie:1290:RiverArea  Add:Gem:8730:WaterfallArea  Add:Maya:1230:WaterfallArea  Add:Jamie:560:RiverArea  Feed:Bobbie:6300:DeepWoodsArea  Feed:Adam:4650:ByTheCreek  Feed:Jamie:2000:RiverArea  Last Info | Adam was successfully fed  Jamie was successfully fed  Animals:  Maya -> 8830g  Gem -> 8730g  Bobbie -> 270g  Areas with hungry animals:  WaterfallArea : 2  DeepWoodsArea : 1 |
| **Comments** | |
| First, we receive the "**Add**" command, so we **add** "**Maya**" to our **records** and we keep her **daily food limit** - **7600**. We know that she is in **WaterfallArea**. We keep adding the new animals until we receive "**Maya**" **again** and we have to **increase** her food **limit** with **1230**, so it becomes **8830**. After that we receive "**Jamie**" and we need to **increase** his daily food **limit** with **560**, after which it **becomes** **1850**. Then we start receiving "**Feed**" commands. First, we must **decrease** **Bobbie's** food **limit** with **6300**, so it becomes **270**. Then, we need to decrease **Adam's** food **limit** with **4650**. It **becomes** **less than zero** and we **remove** **him** from the collection – he is **considered fed**, respectively that is **one less hungry** **animal** in the **area** that he is in – **ByTheCreek**. Then we "**Feed**" **Jamie** with **2000** and his **limit** becomes **less than zero**, so we print "**Jamie was successfully fed**" and we **remove** him from our records and note that there is **one** **less** **hungry animal** in his area – **RiverArea**. In the end, we **print the animals** we still have in our collection, with their daily food **limits** in **descending order** by the food **limits**. Afterwards we print only the **areas** in which there are **remaining** **hungry** **animals** and their **count** in **descending** order. | |
|  | |
| Add:Bonie:3490:RiverArea  Add:Sam:5430:DeepWoodsArea  Add:Bonie:200:RiverArea  Add:Maya:4560:ByTheCreek  Feed:Maya:2390:ByTheCreek  Feed:Bonie:3500:RiverArea  Feed:Johny:3400:WaterFall  Feed:Sam:5500:DeepWoodsArea  Last Info | Sam was succesfully fed  Animals:  Maya -> 2170g  Bonie -> 190g  Areas with hungry animals:  RiverArea : 1  ByTheCreek : 1 |