# Problem 4. Pokemon Evolution

*You have been tasked to keep track of pokemons and their evolutions. A pokemon can evolve in several phases and types. When it evolves, the pokemon has an evolution index, which indicates how much it has evolved.*

You will receive input lines in the following format:  
{pokemonName} -> {evolutionType} -> {evolutionIndex}

The pokemonName and evolutionType will be **strings**. The evolutionIndex will be an **integer**. Your task is to store every **pokemon** and his **evolutions**.   
If you receive an existent pokemonName, you should **add** the **new** **evolution** to it.

A single **pokemon** may have **many evolutions** with the **same type** and the **same index**.

In some rare cases you may receive the following input:  
{pokemonName}

When you receive only a pokemonName, you must **check if there is** such a **pokemon**, and if there is, you must print all of its **evolutions** by **order of input**.

The **input sequence ends** when you **receive** the command “wubbalubbadubdub”.   
Then you must print all pokemons and their evolutions. The pokemons must be printed by **order of input**. Each **pokemon’s evolutions** must be **ordered** by **evolution index** in **descending order**.

### Input

* The input will come in the form of lines in the format specified above.
* In some rare cases you may have only one element of the input – the pokemonName.
* The input sequence ends when you receive the command “wubbalubbadubdub”.

### Output

* **Pokemons** and their **evolutions** must be printed in the following format:

“# {pokemoName}  
 {evolution1Type} <-> {evolution1Index}  
 {evolution2Type} <-> {evolution2Index}

…”

* If you have received a pokemonName and you are **printing its evolutions**, the order is – by **order of input**.
* If you have received the **ending command**, and you are printing the **pokemons’ evolutions**, the order is – by evolutionIndex in **descending order**.

### Constrains

* The pokemonName and evolutionType are strings which may contain any ASCII character   
  (except ‘-’, ‘ ’, ‘>’).
* The evolutionIndex will be an **integer** in **range [0, 1.000.000.000]**.
* There will be **NO invalid** input data.
* Allowed time / memory: **100ms / 16 MB**.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Ekans -> Hybrid -> 100  Nidoran -> Physical -> 150  Ekans -> Psychological -> 50  Jigglypuff -> Hybrid -> 1000  Jigglypuff -> Physical -> 2000  wubbalubbadubdub | # Ekans  Hybrid <-> 100  Psychological <-> 50  # Nidoran  Physical <-> 150  # Jigglypuff  Physical <-> 2000  Hybrid <-> 1000 |
| Pikachu -> Hybrid -> 100  Meowth -> Physical -> 100  Pikachu -> Psychological -> 50  Meowth -> Physical -> 50  Pikachu -> Hybrid -> 150  Meowth  Pikachu  wubbalubbadubdub | # Meowth  Physical <-> 100  Physical <-> 50  # Pikachu  Hybrid <-> 100  Psychological <-> 50  Hybrid <-> 150  # Pikachu  Hybrid <-> 150  Hybrid <-> 100  Psychological <-> 50  # Meowth  Physical <-> 100  Physical <-> 50 |

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