# Problem 1. Dictionary

*Gencho is in the library, looking for words and their definitions to fill in his dictionary.*

Your task is to take every word and **insert it** into the dictionary **with its definition**. A word may have **one or more definitions**. You will receive all the words and definitions, separated by **" | "**, and each word and its definition will be separated by **": "**.

After this you will have to check the words you have in the dictionary. Now you will receive only words, again separated by **" | "**. For **each word** you get you will have to print it and **all of its definitions,** ordered by **length** of the definition **in descending order** (**if it exists in the dictionary**) in the following format:

**"{word}:"**

**" –{definition1}"**

**" –{definition2}"**

**" –{definition3}"**

**. . .**

In the end, you will receive one more command, which will be either **"End"** or **"List"**. If the command is **"End"**, you should break the program. If the command is **"List"**, you should print all of the words, ordered alphabetically, separated by space (**" "**).

## Input

Three **strings**. The first one will have pairs of words and descriptions, separated by **" | "** and each word separated from its description by **": "**. The second **string** will have only words, separated by **" | "**. The third **string** will be a command – either **"End"** or **"List"**.

## Output

For **each word** that is called you have to print it **with all of its definitions ordered by their length (descending)**. In the end you have to print **all the words, ordered alphabetically**, separated by **a single space** if you have the command **"List"**. For all of the words you have to print them in the format:

**"{word}:"**

**" –{definition1}"**

**" –{definition2}"**

**" –{definition3}"**

**. . .**

## Examples

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| **Input** |
| programmer: an animal, which turns coffee into code | developer: a magician  Pesho | Gosho  List |
| **Output** |
| developer programmer |

|  |
| --- |
| **Input** |
| tackle: the equipment required for a task or sport | code: write code for a computer program | bit: a small piece, part, or quantity of something | tackle: make determined efforts to deal with a problem | bit: a short time or distance  bit | code | tackle  End |
| **Output** |
| bit  -a small piece, part, or quantity of something  -a short time or distance  code  -write code for a computer program  tackle  -make determined efforts to deal with a problem  -the equipment required for a task or sport |