## Courses

Write a program that keeps information about **courses**. Each course has a name and registered students.

You will be receiving a **course** **name** and a **student** **name,** until you receive the command "**end**". **Check if such course already exists, and if not, add the course.** Register the user into the course. When you receive the command "**end**", print the courses with their **names** and **total registered users**, ordered by the count of registered users in descending order. For each contest print the registered users **ordered by name** **in ascending order**.

**Input**

* Until the "**end**" command is received, you will be receiving input in the format: "**{courseName} : {studentName}**".
* The product data is **always** delimited by **" : ".**

**Output**

* Print the information about **each** **course** in the following the format:   
  **"{courseName}: {registeredStudents}"**
* Print the information about each student, in the following the format:  
  **"-- {studentName}"**

### Examples

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| **Input** | **Output** |
| Programming Fundamentals : John Smith  Programming Fundamentals : Linda Johnson  JS Core : Will Wilson  Java Advanced : Harrison White  end | Programming Fundamentals: 2  -- John Smith  -- Linda Johnson  JS Core: 1  -- Will Wilson  Java Advanced: 1  -- Harrison White |
| Algorithms : Jay Moore  Programming Basics : Martin Taylor  Python Fundamentals : John Anderson  Python Fundamentals : Andrew Robinson  Algorithms : Bob Jackson  Python Fundamentals : Clark Lewis  end | Python Fundamentals: 3  -- Andrew Robinson  -- Clark Lewis  -- John Anderson  Algorithms: 2  -- Bob Jackson  -- Jay Moore  Programming Basics: 1  -- Martin Taylor |