## Courses

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

You will receive **course** **name** and **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 do 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 registered users ordered by name in **ascending** order.

**Input**

* Until you receive "**end**", the input come in the format: "**{courseName} : {studentName}**"
* The product data is **always** delimited by " : "

**Output**

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

### Examples

|  |  |
| --- | --- |
| **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 |