Problem 4 – Olympics Are Coming

It's still 2015, but all around the world athletes are in the heat of preparation for one of the biggest events in sports. You're a statistician and you've been hired by a bookie to collect some data in order to determine the favorites and underdogs in the coming Olympic Games. To do that, you'll receive information about the winners of some sports events in format: **"[athlete] | [country]"**. Your employer needs the data fast, so at some point he'll tell you to stop and **"report"**.

Your task is to aggregate the data and print it on the console. The data for each country should be on a separate line and should be in format: **"[country] ([numberOfParticipants] participants): [wins] wins"**. The number of participants reflects the number of **unique athletes** as some of them may have won more than one contest (name comparison should be **case-sensitive**). The **countries** should be **ordered by the number of wins in descending order**, meaning that you should print first the country with the most total wins. In case several countries have the same number of wins, print them in the order in which they have been added to the database.

Make sure to **remove all unnecessary whitespaces** from the names of the countries and the athletes; if a name consists of two words they should be separated by a single space and there shouldn't be any leading or trailing whitespaces.

Input

- The input data should be read from the console.
- It consists of a variable number of lines and ends when the command "**report**" is received.
- The input data will always be valid and in the format described. There is no need to check it explicitly.

Output

- The output should be printed on the console.
- Print the aggregated data for each country on a new line in the format specified above.

Constraints

- The **name** of the **athlete** and the **country** will consist of **one or two words (separated by one or more whitespaces)**. There may be whitespaces before or after the names.
- The name of the athlete and the country name will be separated from each other by a pipe ('|'). There may be whitespaces around the pipe.
- The number of input lines will be in the range [2 … 50].
- Allowed working time for your program: 0.1 seconds. Allowed memory: 16 MB.

Examples

Input	Output
Ivan ivanov | Bulgaria Ivan Ivanov |Bulgaria Roger Federer|Switzerland Ivan Ivanov| Bulgaria report	Bulgaria (2 participants): 3 wins Switzerland (1 participants): 1 wins

Input	Output
Boko|Bulgaria Gero|Spain A|Angola B|Angola Mike|England Steve|England Pesho | Bulgaria report	Bulgaria (2 participants): 2 wins Angola (2 participants): 2 wins England (2 participants): 2 wins Spain (1 participants): 1 wins