# Vehicles Statistics

You were just chosen to implement a log system for cars, which pass through two cameras: one in each direction. Each camera recognizes the **car's number plate** (alpha-numeric and numbers, no spaces), **the car's color**, and **the car's size** (S, M, L, X, XL, XXL).

* **S** is reserved for two-wheel vehicles
* **M** and **L** are for normal cars up to 3.5 tons of weight
* **XL** is truck
* **XXL** - the biggest trucks, which can pull up to one container

The data comes in the following format: **"NNNNNNNN {color} {size}"**, where **"NNNNNNNN"** is the **number**, the rest are pretty self-explanatory. The input finishes with **"end"**.

The program **reads the input**, **sorts out each of the vehicles** in its corresponding class-containers, and then **prints out the statistics**, such as:

**All cars per size**

**All cars per color**

Your job is to finish the implementation of the system:

Study the input and the expected outputs.

Study the code.

Finish the class hierarchy.

Finish the **printInfo** method.

Now, there's one catch: your colleague, who did the initial architecture, **forgot to make the printInfo method** **virtual**. Since you **cannot touch the .h file**, you **need to find a way to handle** this situation and achieve the printout of the proper classes.

## Input

* The data comes in the following format: **"NNNNNNNN {color} {size}"**, until a **"end"** command is received**.**

## Output

* On the first line, we have a message: **"Vehicles by size:"**
* On the next lines we get the sorting of the cars **first by size**.
* When sorting by size is complete, we should print the following message: **"Vehicles by color:"**
* On the next lines we get the sorting of the cars **by color**.

## Examples

|  |  |
| --- | --- |
| ****Input**** | ****Output**** |
| **CA6626TM grey L**  **A6181AA white M**  **PB3295KX red S**  **CB2412AE red XXL**  **EA3945AA white M**  **CA8653BA white XL**  **end** | **Vehicles by size:**  **L:**  **- CA6626TM, grey bigger car.**  **M:**  **- A6181AA, white medium car.**  **- EA3945AA, white medium car.**  **S:**  **- PB3295KX, red with 2 wheels.**  **XL:**  **- CA8653BA, white truck.**  **XXL:**  **- CB2412AE, red big truck.**  **Vehicles by color:**  **grey:**  **- CA6626TM, grey bigger car.**  **red:**  **- PB3295KX, red with 2 wheels.**  **- CB2412AE, red big truck.**  **white:**  **- A6181AA, white medium car.**  **- EA3945AA, white medium car.**  **- CA8653BA, white truck.** |
| **CA6626TM grey L**  **CA6626TM white L**  **CA6626TM white XL**  **CA6626TM red XXL**  **end** | **Vehicles by size:**  **L:**  **- CA6626TM, grey bigger car.**  **- CA6626TM, white bigger car.**  **XL:**  **- CA6626TM, white truck.**  **XXL:**  **- CA6626TM, red big truck.**  **Vehicles by color:**  **grey:**  **- CA6626TM, grey bigger car.**  **red:**  **- CA6626TM, red big truck.**  **white:**  **- CA6626TM, white bigger car.**  **- CA6626TM, white truck.** |