Exercise: Objects and Classes

Problems for exercises and homework for the "Technology Fundamentals" course @ SoftUni.

You can check your solutions in Judge.

1. Advertisement Message

Write a program that generate random fake advertisement message to extol some product. The messages must consist of 4 parts: laudatory phrase + event + author + city. Use the following predefined parts:

- Phrases {"Excellent product.", "Such a great product.", "I always use that product.", "Best product of its category.", "Exceptional product.", "I can't live without this product."}
- Events {"Now I feel good.", "I have succeeded with this product.", "Makes miracles. I am happy of the results!", "I cannot believe but now I feel awesome.", "Try it yourself, I am very satisfied.", "I feel great!"}
- Authors {"Diana", "Petya", "Stella", "Elena", "Katya", "Iva", "Annie", "Eva"}
- Cities {"Burgas", "Sofia", "Plovdiv", "Varna", "Ruse"}

The format of the output message is: {phrase} {event} {author} - {city}.

As an input, you take the number of messages to be generated. Print each random message at a separate line.

Examples

Input	Output	
3	Such a great product. Now I feel good. Elena – Ruse	
	Excelent product. Makes miracles. I am happy of the results! Katya - Varna	
	Best product of its category. That makes miracles. Eva - Sofia	

2. Articles

Create an article class with the following properties:

- Title a string
- Content a string
- Author a string

The class should have a constructor and the following methods:

- Edit (new content) change the old content with the new one
- ChangeAuthor (new author) change the author
- Rename (new title) change the title of the article
- override **ToString** print the article in the following format: "{title} - {content}:{author}"

Write a program that reads an article in the following format "{title}, {content}, {author}". On the next line, you will get a number n. On the next n lines, you will get one of the following commands: "Edit: {new content}"; "ChangeAuthor: {new author}"; "Rename: {new title}". At the end, print the final article.

















Example

Input	Output
some title, some content, some author	better title - better
3	content: better author
Edit: better content	
ChangeAuthor: better author	
Rename: better title	

3. Opinion Poll

Using the Person class, write a program that reads from the console N lines of personal information and then prints all people whose age is more than 30 years, sorted in alphabetical order.

Note: you can use stream() to filter people.

Examples

Input	Output
3 Pesho 12	Ivan - 48
Stamat 31 Ivan 48	Stamat – 31
5	Lyubo - 44
Nikolai 33 Yordan 88	Nikolai - 33 Yordan - 88
Tosho 22 Lyubo 44	
Stanislav 11	

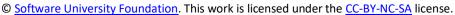
4. Articles 2.0

Change the program, so you can store a list of articles. You will not need the methods any more (except the ToString method). On the first line, you will get a number n. On the next n lines, you will get some articles in the same format as the previous task ("{title}, {content}, {author}"). Finally, you will get one of the three inputs: "title", "content", "author". You need to order the articles alphabetically based on the command and print them sorted by the given criteria.

Example

Input	Output
2	Article - content: Johnny
Science, planets, Bill	Science - planets: Bill
Article, content, Johnny	
title	
3	title3 - A: author3
title1, C, author1	title2 - B: author2
title2, B, author2	title1 - C: author1



















title3, A, author3
ent

5. Students

Write a program that receives an n count of students and orders them by grade (in descending). Each student should have First name (string), Last name (string) and grade (floating-point number).

Input

- First line will be a number **n**
- Next n lines you will get a student info in the format "{first name} {second name} {grade}"

Output

Print each student in the following format "{first name} {second name}: {grade}"

Example

Input	Output
4	Rocco Erben: 6.00
Lakia Eason 3.90	Prince Messing: 5.49
Prince Messing 5.49	Akiko Segers: 4.85
Akiko Segers 4.85	Laktu Lason. 3.30
Rocco Erben 6.00	

6. Vehicle Catalogue

You have to make a catalogue for vehicles. You will receive two types of vehicle – car or truck.

Until you receive the command "End" you will receive lines of input in the format:

{typeOfVehicle} {model} {color} {horsepower}

After the "End" command, you will start receiving models of vehicles. Print for every received vehicle its data in the format:

Type: {typeOfVehicle} Model: {modelOfVehicle} Color: {colorOfVehicle}

Horsepower: {horsepowerOfVehicle}

When you receive the command "Close the Catalogue", stop receiving input and print the average horsepower for the cars and for the trucks in the format:

"{typeOfVehicles} have average horsepower of {averageHorsepower}."

The average horsepower is calculated by dividing the sum of horsepower for all vehicles of the type by the total count of vehicles from the same type.

Format the answer to the **2**nd **decimal point**.

















Constraints

- The type of vehicle will always be car or truck.
- You will not receive the same model twice.
- The received horsepower will be integer in the interval [1...1000]
- You will receive at most 50 vehicles.
- **Single** whitespace will be used for **separator**.

Examples

Input	Output
truck Man red 200	Type: Car
truck Mercedes blue 300	Model: Ferrari
car Ford green 120	Color: red
car Ferrari red 550	Horsepower: 550
car Lamborghini orange 570	Type: Car
End	Model: Ford
Ferrari	Color: green
Ford	Horsepower: 120
Man	Type: Truck
Close the Catalogue	Model: Man
	Color: red
	Horsepower: 200
	Cars have average horsepower of: 413.33.
	Trucks have average horsepower of: 250.00.

7. Order by Age

You will receive an unknown number of lines. On each line, you will receive array with 3 elements. The first element will be string and represents the name of the person. The second element will be a string and will represent the ID of the person. The last element will be an integer and represents the age of the person.

When you receive the command "End", stop taking input and print all the people, ordered by age.

Examples

Input	Output
Georgi 123456 20	Stefan with ID: 524244 is 10 years old.
Pesho 78911 15	Pesho with ID: 78911 is 15 years old.
Stefan 524244 10	Georgi with ID: 123456 is 20 years old.
End	



