Exercise: Associative Arrays

1. Words Tracker

Write a function that receives an **array of words** and finds **occurrences of given words** in that sentence.

The input will come as **array of strings**. The **first string** will contain the **words** you will be looking for separated by a **space**. All **strings after that** will be the words you will be looking for.

Print for **each word** how many times it **occurs**. The words should be **sorted by count in descending**.

Example

Input	Output
['this sentence', 'In','this','sentence','you','have','to' ,'count','the','occurances','of','the' ,'words','this','and','sentence','becaus e','this','is','your','task']	this - 3 sentence - 2

2. Odd Occurrences

Write a function that extracts all the elements of a sentence odd number of times (**case-insensitive**)

The input comes as a **single string**. The words will be **separated by a single space**.

Example

Input	Output
'Java C# Php PHP Java PhP 3 C# 3 1 5 C#'	c# php 1 5

3. Piccolo

Write function that:

- Records a **car number** for every car that enters the **parking lot**
- Removes a **car number** when the car goes out
- Input will be array of strings in format **`[direction, carNumber]`**

Print the output with all car numbers which are in the parking lot **sorted in ascending by number**

Examples

Input	Output
['IN, CA2844AA', 'IN, CA1234TA', 'OUT, CA2844AA', 'IN, CA9999TT', 'IN, CA2866HI', 'OUT, CA1234TA', 'IN, CA2844AA', 'OUT, CA2866HI', 'IN, CA9876HH', 'IN, CA2822UU']	CA2822UU CA2844AA CA9876HH CA9999TT
['IN, CA2844AA', 'IN, CA1234TA', 'OUT, CA2844AA', 'OUT, CA1234TA']	Parking Lot is Empty

4. Party Time

There is a party at Kingsland. Many guests are invited and they are **two types**: VIP and regular. When guests come to the party check if he/she **exists** in any of the **two reservation lists**.

The input will come as **array of strings**. You will be given the list with the guests before you receive a command **"PARTY"**

All reservation **numbers will be with 8 chars**

All **VIP numbers start with digit**

When you receive the command **"PARTY"** the guests start coming.

Output all guest, who didn't come to the party (VIP must be first)

Examples

Input	Output	Input	Output
['7IK9Yo0h', '9NoBUajQ', 'Ce8vwPmE', 'SVQXQCbc', 'tSzE5t0p', 'PARTY', '9NoBUajQ', 'Ce8vwPmE', 'SVQXQCbc'	2 7IK9Yo0h tSzE5t0p	['m8rfQBvl', 'fc1oZCE0', 'UgffRkOn', '7ugX7bm0', '9CQBGUeJ', '2FQZT3uC', 'dziNz78I', 'mdSGyQCJ', 'LjcVpmDL',	2 xys2FYzn MDzcM9ZK

]		'fPXNHpm1', 'HTTbwRmM', 'B5yTkMQi', '8N0FThqG', 'xys2FYzn', 'MDzcM9ZK', 'PARTY', '2FQZT3uC', 'dziNz78I', 'mdSGyQCJ', 'LjcVpmDL', 'fPXNHpm1', 'HTTbwRmM', 'B5yTkMQi', '8N0FThqG', 'm8rfQBvl', 'fc1oZCE0', 'UgffRkOn', '7ugX7bm0', '9CQBGUeJ']	

5. Card Game

You are given a sequence of people and for every person what cards he draws from the deck. The input will be **array of strings**. Each string will be in format:

{personName}: {PT, PT, PT,… PT}

Where P (2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K, A) is the power of the card and T (S, H, D, C) is the type. The name can contain any ASCII symbol except **':'**. The input will always be valid and in the format described, there is no need to check it.

A single person cannot have more than one card with the same power and type, if he draws such a card he discards it. The people are playing with multiple decks. Each card has a value that is calculated by the power multiplied by the type. Powers **2 to 10** have the same value and **J to A** are **11 to 14**. Types are mapped to multipliers the following way (**S -> 4, H-> 3, D -> 2, C -> 1**).

Finally print out the total value each player has in his hand in the format:

{personName}: {value}

Examples

Input	Output
['Peter: 2C, 4H, 9H, AS, QS', 'Tomas: 3H, 10S, JC, KD, 5S, 10S', 'Andrea: QH, QC, QS, QD', 'Tomas: 6H, 7S, KC, KD, 5S, 10C', 'Andrea: QH, QC, JS, JD, JC', 'Peter: JD, JD, JD, JD, JD, JD']	Peter: 167 Tomas: 175 Andrea: 197