Map and Set - Exercise

Submit your solutions here: https://judge.softuni.org/Contests/3010/Maps-and-Sets-Exercise

1. Count Real Numbers

Read a **list of real numbers** and **print them in ascending order** along with their **number of occurrences**.

Examples

Input	Output
8 2.5 2.5 8 2.5	2.5 -> 3 8 -> 2

Input	Output
1.5 5 1.5 3	1.5 -> 2 3 -> 1 5 -> 1

Input	Output
-2 0.33 0.33 2	-2 -> 1 0.33 -> 2 2 -> 1

2. Odd Occurrences

Write a program that extracts from a given sequence of words all elements that appear in it an **odd number of times** (case-insensitive).

- Words are given in a single line, space-separated.
- Print the result elements in lowercase, in their order of appearance.

Examples

Input	Output
Java C# PHP PHP JAVA C java	java, c#, c
3 5 5 hi pi HO Hi 5 ho 3 hi pi	5, hi
a a A SQL xx a xx a A a XX c	a, sql, xx, c

3. Largest 3

Read a **list of real numbers** and **print the largest 3 of them**. If less than 3 numbers exit, print all of them.

Examples

Input	Output
10 30 15 20 50 5	50 30 20

Input	Output
20 30	30 20

4. Short Words

Read a **text**, extract its **words** (separated by spaces) find all **short words** (less than 5 characters), and print them **alphabetically**, in **lowercase**, separate by a single comma and a single space.

- Use case-insensitive matching.
- Remove duplicated words.

Examples

Input	Output

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5. Sort Numbers

Read a **list of decimal numbers** and **sort** them in increasing order. Print the output as shown in the examples below.

Examples

Input	Output
8 2 7 3	2 <= 3 <= 7 <= 8
2 4 -9	-9 <= 2 <= 4

6. Squares

Read a **list of integers** and **extract all square numbers** from it and print them in **descending order**. A **square number** is an integer that is the square of any integer. For example, **1**, **4**, **9**, and **16** are square numbers.

Examples

Input	Output
3 16 4 5 6 8 9	16 9 4
1 9 4 16 8 25 49 16	49 25 16 16 9 4 1

7. Miners

You are given a sequence of strings, each on a new line. Every odd line on the console is representing a resource (e.g. **Gold**, **Silver**, **Copper**, and so on), and every even – quantity. Your task is to collect the resources and print them each on a new line.

Print the resources and their quantities in the format:

{resource} -> {quantity}

The quantities of inputs will be in the range [1 - 2 000].

Examples

Input	Output
Gold 155 Silver 10 Copper 17 stop	Gold -> 155 Silver -> 10 Copper -> 17

Input	Output
gold 155 silver 10 copper 17 gold 15 stop	gold -> 170 silver -> 10 copper -> 17