# Bakery Shop

*What is the secret to a fluffy, delicious croissant? High-quality yeast, homemade butter, sugar, and of course the perfect combination between water and flour.*

Create a program that calculates the ratio between **water** and **flour** for **predefined** bakery products.

You will be given **two sequences of real numbers,** representing **water and flour**.

You should start from the **first water** and mix it with the **last flour.** If the **ratio of water/flour** corresponds to some of the following bakery products:

* **Croissant** – consists of **50% water** and **50% flour**
* **Muffin** – consists of **40% water** and **60% flour**
* **Baguette** – consists of **30% water** and **70% flour**
* **Bagel** – consists of **20% water** and **80% flour**

**Create** the corresponding bakery product and **remove** **both** the **water** and the **flour from each collection.**

If **none** of the products could be made, you should create the **best-selling bakery product** which is **Croissant**. To bake a **Croissant**,take only so much **flour** to meet the required ratio of **50% water** and **50% flour.** The water is **removed,** andall the **excessive flour** should be **inserted back** into the collection**.** You should **stop** mixing when you have **no more flour** or **water left**.

As a result, you should print two lines for output

* On the first line **print all the products** which were baked **ordered by amount baked descending, then by name of the products alphabetically**.
* On the second line print how much **water** and **flour** have left.

## Input

* On the **first line**, you will receive a sequence of **real numbers** representing the amount of **water**, **separated** by a single space (**" "**).
* On the **second line**, you will receive a sequence of real numbers representing the **flour**, **separated** by a single space (**" "**)**.**

## Output

* On the **first** line print **only products which were baked successfully** and how many **of them**, **ordered** by amount **baked descending**, then by product name **alphabetically**:

**"{product name}: {amount baked}**

**{product name}: {amount baked}**

**…**

**"**

* On the **second** line - print all water you have left:
  + If there is no water: "**Water** **left: None**"
  + If there are water left unused: "**Water left: {** **water1}, {** **water2}, {** **water3},** **(…)"**
* On the **third** line - print all flour you have left:
  + If there is no flour: "**Flour left: None**"
  + If there are flour left unused: "**Flour left: {** **flour1}, {** **flour2}, {** **flour3},** **(…)**"

## Constraints

* All numbers will be in rage [**1.0…100.0**].
* The input will be always valid.
* The flour will never go below zero.

## Examples

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| ****Input**** | ****Output**** |
| 16.8 32.4 19.5 25  15 30 45.5 48.6 25.2 | **Muffin: 2**  **Baguette: 1**  **Croissant: 1**  **Water left: None**  **Flour left: 5, 15** |
| ****Comment**** | |
| We start by taking **16.8 (water) and 25.2 (flour)**. We calculate the percentages (**16.8 + 25.2 = 42; (16.8 \* 100)/42 = 40% water**) and end up with **40% water** and **60% flour**, which is enough for baking a **Muffin** and both **water** and **flour** were removed from the collection.  Next, we have **32.4 (water) and 48.6 (flour),** yet another **Muffin** is baked,and both **water** and **flour** were **removed** from the collection.  Next **19.5 (water) and 45.5 (flour),** which makes **30% water** and **70% flour.** A **Baguette** was baked, and both water and flour were removed from the collection.  In the last iteration, we have **25 (water) and 30 (flour),** which is **not a correct ratio** for any bakery product. So we take only **25 (flour)** and combine it with **25 (water)**, which makes the correct **50%-50%** ratio for a **Croissant**. The water was **removed** from the collection, and the remaining **flour (5)** was **inserted** back into the collection.  We**'**ve menage to bake **two muffins, one baguette, one croissant,** and **left with five and fifteen flour**. | |

|  |  |
| --- | --- |
| ****Input**** | ****Output**** |
| **10 20 12 14 30.2**  **30.2 56 48 30 10** | **Bagel: 2**  **Croissant: 2**  **Muffin: 1**  **Water left: None**  **Flour left: None** |