# Problem 1 - Aladdin's Gifts

*Aladdin, rich and powerful with the help of the Genie, is now preparing to marry the princess Jasmine. He asks Genie for help to prepare the wedding presents.*

First, you will receive a sequence of **integers** representing the materials for every wedding present. After that, you will be given another sequence of **integers** – Genie magic level for every aim to make a gift.

Your task is to **mix** **materials** with **magic levels** so you can make presents, listed in the table below.

|  |  |
| --- | --- |
| **Gift** | **Magic needed** |
| Gemstone | 100 to 199 |
| Porcelain Sculpture | 200 to 299 |
| Gold | 300 to 399 |
| Diamond **Jewellery** | 400 to 499 |

To make a present, you should take the **last integer of materials** and **sum** it with the **first magic level value**. If the **result is between or equal to** the numbers described in the table above, you **make the corresponding gift** and **remove both** materials and magic value. **Otherwise**:

* If the **product of the operation** is **under 100**:
  + And if it is an **even** number, **double** **the materials**, and **triple the magic**, then **sum** it again.
  + And if it is an **odd** number, **double** **the sum** of the materials and the magic level. Then, **check again** if it is between or equal to any of the numbers in the table above.
* If the **product of the operation** is **more than 499**, **divide** the sum of the material and the magic level **by 2**. Then, **check again** if it is between or equal to any of the numbers in the table above.
* If, however, **the result is not between or equal to any of the numbers in the table above after performing the calculation**, **remove both** the materials and the magic level.

**Stop crafting gifts when you are out of materials or magic level.**

**You have succeeded in crafting the presents when you've crafted either one of the pairs** - **a gemstone and a sculpture or gold and jewellery**.

## Input

* The **first** line of input will represent the values of **materials** - **integers**, separated by a **single space**
* On the **second** line, you will be given the **magic levels** - **integers**, separated by a **single space**

## Output

* On the **first line** - print **whether you have succeeded** in crafting the presents:
* **"The wedding presents are made!"**
* **"Aladdin does not have enough wedding presents."**
* On the **next two lines** print the **materials** and **magic** that are **left**, **if there are any**, **otherwise skip the line:**
  + "**Materials left: {material1}, {material2}, …**"
  + "**Magic left: {magicValue1}, {magicValue2}, …**
* On the **next lines**, print the **gifts alphabetically** that the Genie has crafted **at** **least once**:

**"{present1}: {amount}**

**{present2}: {amount}**

**…**

**{presentN}: {amount}"**

## Constraints

* All the materials values will be **integers** in the range **[1, 1000]**
* Magic level values will be **integers** in the range **[1, 1000]**

## Examples

|  |  |  |
| --- | --- | --- |
| ****Input**** | ****Output**** | ****Comment**** |
| **105 20 30 25**  **120 60 11 400 10 1** | **The wedding presents are made!**  **Magic left: 10, 1**  **Gemstone: 1**  **Porcelain Sculpture: 2** | First, we have 25 + 120 = 145, which is the needed product for a gemstone. Remove both.  30 + 60 = 90 (under 100 and even) => 30 \* 2 + 60 \* 3 = 240 which is the needed product for a porcelain sculpture. Remove both. 20 + 11 = 31 (under 100 and odd) => 31 \* 2 = 62 which is under 100 again so we remove both. 105 + 400 = 505 (more than 450) => 505 / 2 = 252.5 which is the needed product for a diamond porcelain sculpture. Remove both.  We do not have any material left. The program ends. Print the desired text. |
| **30 5 21 6 0 91**  **15 9 5 15 8** | **Aladdin does not have enough wedding presents.**  **Materials left: 30**  **Gemstone: 1** |  |
| **200**  **5 15 32 20 10 5** | **Aladdin does not have enough wedding presents.**  **Magic left: 15, 32, 20, 10, 5**  Porcelain Sculpture: 1 |  |