# Temple of Doom



*Harry will have to discover an important artifact in a cursed temple. Relying on the inscriptions at the entrance, Harry realizes that he will have to face unprecedented challenges. He must take all the useful things that he has in his truck...*

There will be given **two sequences of integers,** representing **tools** and **substances** that he has at his disposal. There will also be a **third sequence of integers**, representing all **challenges** in the temple.

Your task is to **take the first tool from the tools sequence and the last substance from the substances sequence**. **Multiply the values** and **check the result**.

* If the calculated **result is equal to any of the elements from the challenges sequence**, the challenge is resolved. You need to **remove both the tool and the substance** from their sequences. The **challenge should** also **be removed** from its sequence.
* If the calculated **result is not equal to any of the elements from the challenges sequence**, the challenge is not resolved:
  + **Increase the value of the tool element by 1** and **move** the element **to the back** of the **tools’** sequence.
  + **Decrease** the value of the **substance** element **by 1** and **return the element** to the **substance’s sequence. If the value of the substance element reaches 0, remove it from the sequence.**

If Harry **has no substances or tools left** (the substances sequence is empty) **but has more challenges to resolve**, he is lost in the temple forever. End the program and print on the console the following message:

* **"Harry is lost in the temple. Oblivion awaits him."**

If Harry manages to **pass all the challenges**, he will find the artifact. End the program and **print on the console** the following message:

* **"Harry found an ostracon, which is dated to the 6th century BCE."**

## Input

* The first line will represent the **tools** that Harry has at his disposal – **integers**, separated by a **single space.**
* The second line will represent the **substances** that Harry has at his disposal – **integers**, separated by a **single space**.
* The third line will represent the **challenges** that Harry will have to resolve – **integers**, separated by a **single space**.

## Output

* On the **first** line **print on the console** the appropriate **message**, **among the following**:
  + **"Harry is lost in the temple. Oblivion awaits him."**
  + **"Harry found an ostracon, which is dated to the 6th century BCE."**
* On the next three lines, **print on the console** the elements of the **non-empty sequences**, in the following format:
  + **"Tools: element1, element2, element3 … elementn"**
  + **"Substances: element1, element2, element3 … elementn"**
  + **"Challenges: element1, element2, element3 … elementn"**

## Constraints

* All the given numbers will be valid **integers** in the range **[1, 100].**
* There will be **no negative inputs**.

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2 4 6 8  11 3 5 7 9  24 28 18 30 | Harry found an ostracon, which is dated to the 6th century BCE.  Substances: 11 |
| **Comment** | |
| 1. 2 4 6 8   11 3 5 7 9  24 28 18 30  2 \* 9 = 18  Harry resolves one of the challenges. Remove both the tool value and the substance value from their sequences. Remove the challenge value from the challenges sequence.   1. 4 6 8   11 3 5 7  24 28 30  4 \* 7 = 28  Harry resolves one more of the challenges. Remove both the tool value and the substance value from their sequences. Remove the challenge value from the challenges sequence.   1. 6 8   11 3 5  24 30  6 \* 5 = 30  Harry resolves one more of the challenges. Remove both the tool value and the substance value from their sequences. Remove the challenge value from the challenges sequence.   1. 8   11 3  24  8 \* 3 = 24  Harry resolves one of the challenges. Remove both the tool value and the substance value from their sequences. Remove the challenge value from the challenges sequence.   1. The challenges sequence remains empty, so the program ends. The only sequence containing any element is the substances sequence, so it should be presented in the console output. | |
| **Input** | **Output** |
| 13 7 4 22 11 15 20  3 2 1  12 10 5 | Harry is lost in the temple. Oblivion awaits him.  Tools: 20, 14, 8, 5, 23, 12, 16  Challenges: 12, 10, 5 |
| **Comment** | |
| 1. 13 7 4 22 11 15 20   3 2 1  12 10 5  13 \* 1 = 13  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1. It becomes equal to 0, so it should be removed from the substances sequence.   1. 7 4 22 11 15 20 14   3 2  12 10 5  7 \* 2 = 14  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1.   1. 4 22 11 15 20 14 8   3 1  12 10 5  4 \* 1 = 4  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1. It becomes equal to 0, so it should be removed from the substances sequence.   1. 22 11 15 20 14 8 5   3  12 10 5  22 \* 3 = 66  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1.   1. 11 15 20 14 8 5 23   2  12 10 5  11 \* 2 = 22  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1.   1. 15 20 14 8 5 23 12   1  12 10 5  15 \* 1 = 15  No element from the challenges sequence is equal to the calculated result. Increase the tool value by 1 and add it to the back of the tools sequence. Decrease the substance value by 1. It becomes equal to 0, so it should be removed from the substances sequence.   1. 20 14 8 5 23 12 16   12 10 5   1. The substances sequence remains empty, so the program ends. The sequences containing any element are the tools sequence and the challenges sequence, so they should be presented in the console output. | |