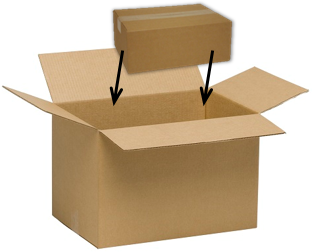
# Problem 1 – Fit Box in Box

Nakov likes boxes. Ha has many boxes at home. To save space he often puts his boxes one inside another. A **box can fit inside another box** if the size of the smaller box is smaller than the size of the bigger box **in all dimensions** at the same time. Of course, boxes can be rotated to fit one inside another. Here are few examples:

* (5, 1, 6) fits naturally in (6, 2, 9), because 5 < 6 and 1 < 2 and 6 < 9
* (5, 1, 6) fits in (2, 7, 6) after rotating the second box to (6, 2, 7)
* (7, 8, 1) cannot fit in (12, 7, 3) even after rotating
* (6, 2, 9) cannot fit in (5, 1, 6) even after rotating

You are given the sizes of **two boxes** (width, height and depth). Write a program to check whether the boxes can fit one inside another and how exactly. Print the **smaller box first**, exactly as it is given in the input (without rotating), followed by "<" and the **larger box** (eventually rotated) to fit each of the dimensions. **Print all possible ways to put the smaller box into the larger box**. In case there is no smaller box, print nothing. See the examples below to catch the idea.

## Input

The input data comes from the console. It holds exactly **6 different numbers**, each at a separate line:

* The first 3 lines hold the dimensions of the first box (width, height and depth).
* The second 3 lines hold the dimensions of the second box (width, height and depth).

The input data will always be valid and in the format described. There is no need to check it explicitly.

## Output

The output should be printed on the console. It should consist of zero or more lines:

* If a smaller box exists, print **all possible ways** to fit the smaller box (without rotation) in the larger box (eventually rotated) in format: (w1, h1, d1) < (w2, h2, d2). Note that the first box is smaller if w1 < w2 and h2 < h2 and d1 < d2. Beware of **whitespaces** in the output format!
* Print each possible fit into a separate line. The lines **order is not important**.
* In case of no smaller box exists, **print nothing**.

|  |  |
| --- | --- |
| **Input** | **Output** |
| 10  12  11  3  5  2 | (3, 5, 2) < (10, 12, 11)  (3, 5, 2) < (10, 11, 12)  (3, 5, 2) < (12, 10, 11)  (3, 5, 2) < (12, 11, 10)  (3, 5, 2) < (11, 10, 12)  (3, 5, 2) < (11, 12, 10) |

## Constraints

* All input numbers are **unique** integers in [1 … 1000].
* Time limit: 0.1 seconds.
* Memory limit: 16 MB.

## Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 9  6  2  5  1  7 | (5, 1, 7) < (6, 2, 9) | 12  4  8  9  16  14 | (12, 4, 8) < (16, 9, 14)  (12, 4, 8) < (16, 14, 9)  (12, 4, 8) < (14, 9, 16)  (12, 4, 8) < (14, 16, 9) | 12  4  8  4  16  9 |  |