03. The Mad Gardener

In the ancient times there were stories about mad gardeners, it was trendy back then. And there was some of us who found some of them somehow special. One among all of them had the most beautiful garden, or at least the story tells so. There were of course any kind of plants, but the work was not at all that easy.

The garden needs to be cut from time to time. And you have been hired to do some programing models of the garden outlook. Now you will read the **height of the plants as integers on a single line**. There of course is something tricky. You have to **remove some of the plants** in such a way that the remaining plants **should increase in height and then begin to decrease at some point**. The garden must however keep its best look so the remaining plants **must have highest possible average height**. And also you have to **remove minimum number of plants**.

Input

The input will come from the console on a single line.

- On a single line the sequence representing the height of each plant.

Output

- First print the remaining plants heights on a single line separated by spaces **"{p1 p2 p3 ...pn}"**
- On the second line print the average height **formatted to the second symbol of the decimal point**
- On the third line the **count of remaining plants**

Constraints

- The number of plants will be in the range **[0...500]**
- The range of the sequences will be **[1...2000]**

Examples

Input	Output
15 28 7 3 14 4	15 28 14 4 15.25 4
15 28 7 3 14 4 14 16	15 28 14 14 17.75 4

"Why did you even put that tree there in the first place?"