

# Socks

George is a young poorly organized person and he always have problems with his socks. He has always dreamed of a program that makes sets of his washed socks. You are the chosen one to help him with his problem. Good luck!

First you will be given a **sequence of integers representing the left socks**. Afterwards you will be given another sequence of integers representing the right socks.

Check all of the left socks and right socks in order to make sets. Take **the last given left sock**, and the **first given right sock** and check **if the left sock is bigger than the right sock** and if it is - you have to **create a pair**. **A pair is created when you add the value of the right sock to the value of the left one**. If you have a pair, **remove both** the left and the right socks from their collections.

**If the right sock value is bigger - remove the left one and check the next one.**

If their values **are equal** - **remove the right sock** and **increment** the value of the left one with **1**.

George wants to wear **the biggest set**, so you have to find out which one it is.

Afterwards **print the created pairs** from **the first added to the last**, separated by a space.

## Input

- On the **first line** of input you will receive the integers, representing the left socks, **separated** by a **single space**.
- On the **second line** of input you will receive the integers, representing the **right socks**, **separated** by a **single space**.

## Output

- On the first line of output - print the biggest pair in the format specified above.
- On the second line - print the pairs, separated by a single space **in the order specified above**.

## Constraints

- All of the given numbers will be valid integers in the range [1, 10000].
- There will always be at least 1 pair.
- Allowed time/memory: 100ms/16MB.

## Examples

Input	Output	Comment
10 8 7 13 8 4 4 7 3 6 4 12	16 15 16 13 12	First, we take <b>the last given left sock - 4</b> and <b>the first given right sock - 4</b> . They are <b>equal</b> , so we have to <b>remove the right sock and increment the left with 1</b> . The left sock <b>becomes 5</b> and the

		<p>collection looks like this</p> <p>Left: 10 8 7 13 8 5</p> <p>Right: 7 3 6 4 12</p> <p>Next, we take the left with value 5 and the right with value 7 – the right is bigger, so we <b>remove</b> the <b>left</b> and the collections should look like this:</p> <p>Left: 10 8 7 13 8</p> <p>Right: 7 3 6 4 12</p> <p>After that we the left 8 and the right 7 – the left is bigger, so we have our first <b>pair</b> with value 15. In the end we have to print the biggest pair, which in this case is with value 16, and the collection of pairs, that we have created.</p>
9 5 4 7 8 5 2 6 9 1 4 5 7 9 6 3 5 4 7	16 10 10 15 16	