Sample Programming Problem

Problem Statement

Two lists of positive numbers are given. In each of the two lists, the numbers are sorted in descending order. Find the following:

1. The average of all numbers in the two lists to the nearest integer. The integer should be less than or equal to the average of all the numbers in the two lists.
2. A combined list that contains all the elements in the two input lists in descending order.

Maximum Marks: 40

INPUT

- The first line contains the first list - a series of positive integers sorted in descending order. The line ends with -1.
- The second line contains the second list - a series of positive integers sorted in descending order. The line ends with -1.

OUTPUT

- The first line should contain an integer which is a nearest to the average of all the numbers in the lists. The integer should be less than or equal to the average of all the numbers in the two lists.
- The second line should contain all the numbers in the two lists arranged in the descending order.

EXAMPLE

INPUT

```
6 3 -1
4 2 -1
```

OUTPUT

```
3
6 4 3 2
```

Explanation

The average of the four numbers in the two lists is 3.75. The nearest integer which is less than or equal to the average is 3. The second line contains all the number in the two lists arranged in the descending order.

Instructions
Do not have any extra/stray spaces or newlines in your output. You will get zero marks if you do so. Your output should have only two lines, each containing just one integer each.

Be careful not to mix up the output lines. If you write the first line output in the second line or the second line output in the first line then you will get zero marks. If you forget to write the first line altogether and just write the second line output, our graders will consider that this is your first line output and then also you will get zero marks.

Do not forget to submit your code. **You can submit multiple times. Your last submission will get graded.** If you do not submit your code at all, you will get a straight zero (there will be no appeals later). If you submit a code which is faulty but then correct your code but forget to submit your corrected code, then your previously submitted (incorrect) code will get graded and you may get less marks. Remember that only your last submission will get graded.

If you accidentally delete your code, do not panic. Try pressing `Ctrl+Z`. If that does not work, stop coding altogether and ask for help from one of the invigilators. Do not write any more code while we are fixing your problem.

The template of the code has been given for your convenience. You may ignore the template while writing the program in your own way. However, you should stick to the format of the output.

**Grading Scheme**

- The total marks of this question is 40 marks.
- There are 2 visible test cases and 5 hidden test cases. The visible test cases carry zero marks each. The hidden test cases carry 8 marks each.
- For each hidden test case, printing the first line of the output correctly (exact match) carries 4 marks and printing the second line correctly (exact match) carries 4 marks, for a total of 8 marks per test case.
- The system will show you how many visible and how many hidden test cases you have passed. Please note, however, that the system will call a test case passed only if both lines of your answer are completely correct. Thus, if your answer is only partly correct (say line 1 is incorrect but line 2 is correct or vice versa), the system will still say that you have not passed that test case completely, but you will get partial marks if your submission deserves it when we do grading after the exam is over.