

BPC 1 S1 - Homework Questions

Time limit: 1.0s **Memory limit:** 256M

Your teacher wrote a sequence of N distinct integers on the board, the homework questions you are supposed to solve for the next class. The i^{th} of these integers is a_i . However, while your teacher wasn't looking, your mischievous friend erased all N numbers and replaced them with a new sequence consisting of the sum of every ordered pair of elements in the original sequence. The i^{th} integer in the new sequence is b_i . As a good student, you would like to do your homework questions. Write a program that, given the modified sequence, recovers the initial sequence.

Constraints

$$1 \leq N \leq 100$$

$$1 \leq a_i, b_i \leq 10^9$$

Subtask 1 [10%]

$$N = 2$$

Subtask 2 [10%]

$$N = 3$$

Subtask 3 [80%]

No additional constraints.

Input Specification

The first line contains a single integer, N , the length of the initial sequence.

The second line contains N^2 integers, b_i , the elements of the modified sequence.

Output Specification

Output a single line containing N space-separated integers, the initial sequence.

You should output the integers in increasing order.

If there are several solutions, you may output any one of them.

Sample Input

```
2
5 4 5 6
```

Sample Output

2 3