



Balancing the load

X points

Introduction

Let's play a simple game. You have an old weighing balance like the one in the picture and you also will receive a list of pieces with different weights. Following the receiving order, can you find out whether is possible to split the list into two parts (one per each plate) that have same weight?



Input

A line with the list of weights represented by positive numbers.

Output

A line reporting if it is possible to distribute the pieces into separate plates. Whenever this is possible provide the weight per each plate and the position of the list that defines the split.

Example 1

Input

3 3 2 3 1

Output

The balance for each plate is 6 found at position 2 of the list.

Example 2

Input

5 2 1 2 3

Output

It is not possible to balance the load.

