
Buying Marbles

Input file: **standard input**
Output file: **standard output**
Time limit: 10 seconds
Memory limit: 256 megabytes

John has marbles of different colours and would like to know how many marbles he must buy so that he has the same number of marbles of each colour.

Write a program that asks how many colours and how many marbles of each colour John has, and that will then calculate the least number of marbles he has to buy in order to have the same number of marbles of each colour.

Input

First line of input consists of a single integer N denoting the number of colours.

Second line of input consists of N space-separated integers giving the numbers of marbles of each colour.

Examples

standard input	standard output
3 1 2 2	1
4 3 4 5 3	5

Note

In the first example John has three colours; one marble of the first colour, two marbles of a second colour, and two marbles of a third colour. In order to have the same number (two) of each colour, he has to buy one more marble.