

# Haystacks

Time limit: 2 sec.

Memory limit: 512MB

## Description

Tired of the busy and draining city life, Sungsoo decided to leave it all behind and become a farmer.

In his farm, Sungsoo arranged  $N$  haystacks to be the same height. But Minkyu, who decided to mess up Sungsoo's workload, shifted some hay from some haystacks to others. So now, the haystacks' heights are not equal.

Given all the heights of the current haystacks, write a program that calculates the minimum amount of hay that needs to be moved to make the heights equal again.

## Input

The first line contains an integer,  $N$ . ( $1 \leq N \leq 10000$ )

The second line contains  $N$  integers, which is the current height of each haystack. These integers are nonnegative, and do not exceed 10000.

The sum of all the heights is guaranteed to be a factor of  $N$ .

## Output

Print the minimum amount of hay that needs to be moved to make the heights equal again.

## Sample I/O

Input(s)	Output(s)
4 2 10 7 1	7

Moving 3 units of hay from haystack 2 to haystack 1, 2 units of hay from haystack 2 to haystack 4, and 2 units of hay from haystack 3 to haystack 4 sets all the haystacks' height to 5.

The total amount of hay moved is 7, and this is the smallest possible value.