Split an array into two subarrays with a minimal difference

Cost: 14 | Solved: 30

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

You are given an array **S** of **n** naturals.

You have to split the array **S** into two subarrays **S_1** and **S_2** in a way that the difference of sums of their elements will be minimal.

Input:

The first line contains a natural **n** ($1 \leq n \leq 10^5$) – the quantity of elements of the array.

The second line contains **n** numbers – the elements of the array.

Output:

The minimal difference of sums of **S_1**'s and **S_2**'s elements.

Example:

Input	Output
8 67 37 86 7 96 77 81 87	0

5 10 20 15 5 25	5