Problem D. Zero Sum Game

Time Limit 2000 ms
Mem Limit 1048576 kB

Problem Statement

There are N people labeled 1 to N, who have played several one-on-one games without draws. Initially, each person started with 0 points. In each game, the winner's score increased by 1 and the loser's score decreased by 1 (scores can become negative). Determine the final score of person N if the final score of person i $(1 \leq i \leq N-1)$ is A_i. It can be shown that the final score of person N is uniquely determined regardless of the sequence of games.

Constraints

- $2 \leq N \leq 100$
- $-100 \leq A_i \leq 100$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

N
A_1 A_2 $\ldots$ A_{N-1}

Output

Print the answer.

Sample 1

Input	Output
4 1 -2 -1	2

Here is one possible sequence of games where the final scores of persons $1, 2, 3$ are $1, -2, -1$, respectively.

- Initially, persons $1, 2, 3, 4$ have $0, 0, 0, 0$ points, respectively.
- Persons 1 and 2 play, and person 1 wins. The players now have $1, -1, 0, 0$ point(s).
- Persons 1 and 4 play, and person 4 wins. The players now have $0, -1, 0, 1$ point(s).
- Persons 1 and 2 play, and person 1 wins. The players now have $1, -2, 0, 1$ point(s).
- Persons 2 and 3 play, and person 2 wins. The players now have $1, -1, -1, 1$ point(s).
- Persons 2 and 4 play, and person 4 wins. The players now have $1, -2, -1, 2$ point(s).

In this case, the final score of person 4 is 2. Other possible sequences of games exist, but the score of person 4 will always be 2 regardless of the progression.

Sample 2

Input	Output
3 0 0	0

Sample 3

Input	Output
6 10 20 30 40 50	-150