Meow and Miau

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Meow and Miau decided to play a game. Meow has A cards while Miau has B cards. Each card is either white or grey.

Denote

- a_w as the number of white cards Meow has,
- a_g as the number of grey cards Meow has,
- b_w as the number of white cards Miau has, and
- b_g as the number of grey cards Miau has.

They both share an array of integers in order to play the game. This array has N integers in total, $c_1, c_2, c_3, \ldots, c_N$, and the game has N turns in total. During the i^{th} turn, Meow will take c_i number of cards from his deck to pass to Miau, then Miau will take c_i number of cards from his deck (may include what Miau just received from Meow) and pass to Meow.

After N turns, the score of the game is calculated as $|a_g - b_w|$ at the end of the game. Meow would like to maximize the score of the game and Miau would like to minimize the score of the game.

If both Meow and Miau played the game optimally, find the score of the game.

Input

The first line contains three space-separated integers A, B, N ($1 \leq A, B, N \leq 2 \times 10^5$)— the number of cards Meow has, the number of cards Miau has, and the number of turns in the game respectively.

The second line contains two space-separated integers a_w and a_g ($0 \leq a_w, a_g \leq A; a_w + a_g = A$) — the number of white cards and the number of grey cards Meow has at the beginning of the game respectively.

The third line contains two space-separated integers b_w and b_g ($0 \leq b_w, b_g \leq B; b_w + b_g = B$) — the number of white cards and the number of grey cards Miau has at the beginning of the game respectively.

The last line contains N space-separated integers, $c_1, c_2, c_3, \ldots, c_N$ $1 \leq c_i \leq min(A, B)$ — the number of cards needed to pass to another play during the i^{th} turn.

Output

Output one line contains one integer — the score of the game if both Meow and Miau play optimally.

Example

standard input	standard output
2 4 1 0 2 4 0 2	2