Andi and Bandi (andibandi)

Andi and Bandi are two little ants who often hang out together in the kitchen. Today, they were lucky enough to find a whole box of sugar cubes near the stove, with a hole in one corner.

They both crawled into the box and were amazed by the number of identical, snow-white sugar cubes surrounding them. Andi and Bandi discovered that they could freely walk along the edges of the cubes in any of three directions. They decided to split up and explore this "sugar maze" individually. To avoid getting lost, they will keep track of how many cubes they walked in each direction:

- S cubes toward the stove;
- T cubes toward the tiles;
- U cubes upward.

By counting the number of cubes they walk in each of these three directions, they can precisely describe their position in the box. Note that the order of moves does not matter, only the total distance traversed in each direction.

Andi and Bandi wandered around until they lost track of each other. To find each other, Andi shouted to Bandi where she was, and Bandi shouted back. For example:

– Andi: "I'm here, toward the stove: 3; toward the tiles: 5; and upward: 2 cubes."

– Bandi: "I'm here, toward the stove: 8; toward the tiles: 1; and upward: 6 cubes."

How many cubes does Andi need to walk to reach Bandi?

☞ Among the attachments of this task you may find a template file `andibandi.*` with a sample incomplete implementation.

Input

The input file consists of:

- a line containing integers `Sa`, `Ta`, `Ua`, the numbers shouted by Andi.
- a line containing integers `Sb`, `Tb`, `Ub`, the numbers shouted by Bandi.

Output

The output file must contain a single line consisting of integer D: the number of cubes Andi needs to walk to reach Bandi.

Constraints

- $1 \leq S, T, U \leq 100\,000\,000$ for both ants.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (50 points) $S, T, U \leq 100$.

– **Subtask 3** (50 points) No additional limitations.

Examples

input	output
3 5 2 8 1 6	13
3 4 5 3 4 5	0

Explanation

In the **first sample case**, Andi makes 5 more steps toward the stove, 4 more steps toward the tiles, and 4 fewer steps upward to reach Bandi. To reach Bandi, Andi needs to walk $5 + 4 + 4 = 13$ cubes.

In the **second sample case**, Andi and Bandi are in the same position, so Andi doesn't need to walk at all.