Missing Mango

Input File: *manin.txt*
Output File: *manout.txt*

Ishraq and Clement have lost their mango and need help finding it again!

Ishraq and Clement are standing on a straight line. Their positions are denoted by a single integer specifying how far they are from the left-hand end of the line. The mango is also on the line, but its exact location is unknown.

Both Ishraq and Clement know how far away from the mango they are, but they don't know what direction the mango is in. Given the location of Ishraq and Clement, and their respective distances to the mango, determine the location of the mango.

It is guaranteed that there will always be a single possible location for the mango.

Input

The first and only line of input will contain the four non-negative integers I_x, C_x, I_d, and C_d, representing Ishraq's location, Clement's location, Ishraq's distance to the mango, and Clement's distance to the mango, respectively.

Output

Output should be a single integer, the location of the mango. You should note that this value might be less than zero.
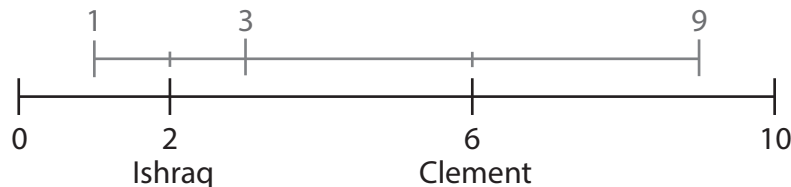
Sample Input 1

```
2 6 1 3
```

Sample Output 1

```
3
```

Explanation 1

The first two numbers in the input respectively give Ishraq's and Clement's locations. So we can see that they are standing at locations 2 and 6. Now, we also know that Ishraq is distance 1 away from the mango, so the mango must either be at location 1 or 3. Clement knows that the mango is distance 3 away from him, so we can see that the mango has to be at location 3.
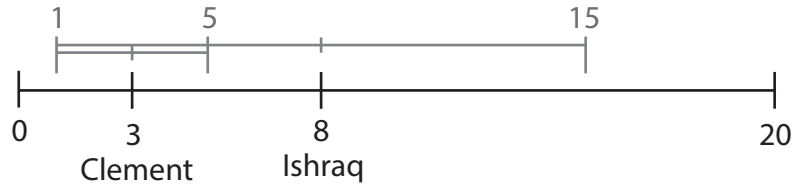
Sample Input 2

```
8 3 7 2
```

Sample Output 2

```
1
```

Explanation 2

Here, Ishraq is standing at 8 and Clement is standing at 3. The mango has to be distance 7 from location 8 and distance 2 from location 3. Therefore the mango must be at location 1.
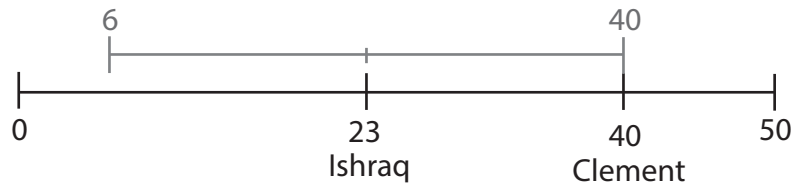
Sample Input 3

```
23 40 17 0
```

Sample Output 3

```
40
```

Explanation 3

In this case, Clement is standing on the mango.

Subtasks & Constraints

For all cases, $0 \le I_x, C_x, I_d, C_d \le 10^4$,

- For subtask 1, (30 marks), $0 \le I_x, C_x, I_d, C_d \le 100$.

- For subtask 2, (15 marks), at least one person will be standing on the mango.

- For subtask 3, (15 marks), the mango will always be between Ishraq and Clement, but never on either of them.

- For subtask 4, (40 marks), there are no additional constraints.