New Year's '19 P1 - Snowball Fight

Time limit: 2.0s **Memory limit:** 256M

Two people are having a fun snowball fight. The fight begins with both people throwing a snowball at each other at the same time. After the i-th person throws a snowball, it takes w_i seconds before they throw another. Every snowball that is thrown will hit the other person. If the i-th person is hit by at least h_i snowballs, they will give up. If both people give up at the same time, the fight is a tie. Otherwise, the remaining person is declared the winner. What will be the outcome of the fight?

Constraints

$1 \leq h_i, w_i \leq 20$

Input Specification

The input consists of two lines. The first line contains two space-separated integers h_1 and w_1. The second line contains two space-separated integers h_2 and w_2.

Output Specification

Output a single integer: 1 if the first person wins, 2 if the second person wins, or -1 if the fight is a tie.

Sample Input 1

```
2 3
2 4
```

Output for Sample Input 1

```
1
```

Explanation for Output for Sample Input 1

The first person is able to throw their second snowball after 3 seconds, forcing the second person to give up before they can throw their second snowball.

Sample Input 2

```
3 4
4 6
```

Output for Sample Input 2

```
-1
```

Explanation for Output for Sample Input 2

At 4 seconds, the first person throws their **second snowball**.
At 6 seconds, the second person throws their **second snowball**.
At 8 seconds, the first person throws their third snowball.
At 12 seconds, both players throw another snowball.
The first person is hit by 3 snowballs, and the second hit by 4, thus both give up at the same time.