

<https://course.acciojob.com/idle?question=80372ff2-d510-4320-8c56-3871c81fcc60>

- MEDIUM

- Max Score: 40 Points

Big Light

Gian and Suneo want their heights to be equal so they asked Doraemon for help. Doraemon gave a big light to both of them but both big lights have different speeds of magnifying. Let us assume the big light given to Gian can increase the height of a person by v_1 m/s and that of Suneo's big light is v_2 m/s. At the end of each second Doraemon check if their heights are equal or not.

Given the initial height of Gian and Suneo, your task is to check whether the height of Gian and Suneo will become equal at some point or not, assuming they both started at the same time.

Input Format

The only line of the input contains 4 spaced integers, h_1 (height of Gian), h_2 (height of Suneo), v_1 (speed of Gian's big light), and v_2 (speed of Suneo's big light).

You need to complete `bigLight` function which contains above 4 integer inputs and print/return boolean true or false.

Output Format

Print true if height will become equal at some time else print false.

Example 1

Input

4 2 2 4

Output

```
true
```

Explanation

The height of Gian goes as- 4 6 8 10. . height of Suneo goes as:- 2 6 10.. at the end of 1 second their height will become equal.

Example 2

Input

```
5 4 1 6
```

Output

```
false
```

Constraints

```
1 <= h2 < h1<=10000
```

```
1 <= v1 <= 10000
```

```
1 <= v2 <=10000
```

Topic Tags

- **Math**
- **Basics**

My code

```
// n java
```

```
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
    public static void main (String[] args) throws
java.lang.Exception
    {
        //your code here
        Scanner s=new Scanner(System.in);
        int h1=s.nextInt();
        int h2=s.nextInt();
        int a=s.nextInt();
        int b=s.nextInt();
        if(h1>h2)
        while(h1>h2 && b>a)
        {
            h2=h2+b;
            h1=h1+a;
        }
        else while(h1<h2 && a>b)
        {
            h2=h2+b;
            h1=h1+a;
        }
        if(h2==h1)
        System.out.print("true");
        else System.out.print("false");
    }
}
```

}
}