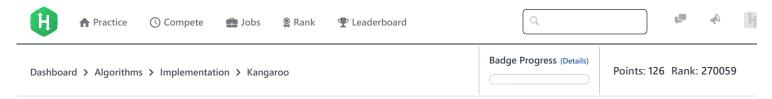
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em Submissions Leaderboard Discussions Editor

There are two kangaroos on a number line ready to jump in the positive direction (i.e, toward positive infinity). The first kangaroo starts at location x_1 and moves at a rate of v_1 meters per jump. The second kangaroo starts at location x_2 and moves at a rate of v_2 meters per jump. Given the starting locations and movement rates for each kangaroo, can you determine if they'll ever land at the same location at the same time?

Input Format

A single line of four space-separated integers denoting the respective values of x_1 , v_1 , x_2 , and v_2 .

Constraints

- $0 \le x_1 < x_2 \le 10000$
- $1 \le v_1 \le 10000$
- $1 \le v_2 \le 10000$

Output Format

Print YES if they can land on the same location at the same time; otherwise, print NO.

Note: The two kangaroos must land at the same location *after making the same number of jumps*.

Sample Input 0

0 3 4 2

Sample Output 0

YES

Explanation 0

The two kangaroos jump through the following sequence of locations:

1.
$$0 \rightarrow 3 \rightarrow 6 \rightarrow 9 \rightarrow 12$$

2.
$$4 \rightarrow 6 \rightarrow 8 \rightarrow 10 \rightarrow 12$$

Thus, the kangaroos meet after 4 jumps and we print YES.

Sample Input 1

0 2 5 3

Sample Output 1

NO

15/11/2017 HackerRank

Explanation 1

The second kangaroo has a starting location that is ahead (further to the right) of the first kangaroo's starting location (i.e., $x_2 > x_1$). Because the second kangaroo moves at a faster rate (meaning $v_2 > v_1$) and is already ahead of the first kangaroo, the first kangaroo will never be able to catch up. Thus, we print NO.

f in Submissions:<u>111813</u> Max Score:10 Difficulty: Easy Rate This Challenge: ☆☆☆☆☆

```
Current Buffer (saved locally, editable) & 40
                                                                                           Java 7
                                                                                                                             Ö
1 ▼ import java.io.*;
2 |import java.util.*;
3
   import java.text.*;
    import java.math.*;
    import java.util.regex.*;
6
7 ▼ public class Solution {
8
9 ▼
        static String kangaroo(int x1, int v1, int x2, int v2) { //0,3,4,2
10
            // Complete this function
11 ▼
            if(x1 == x2 \&\& v1 == v2){
                return "YES";
12
13 ▼
            else if(x1 > x2 && v1 < v2){
14 1
                do{
15
                     x1 += v1;
16
                     x2 += v2;
                     if(x1 == x2) return "YES";
17
                while(x1 > x2);
18
19
                return "NO";
20 ▼
            else if(x1 < x2 & v1 > v2){
21 ▼
                do{
22
                     x1 += v1;
23
                     x2 += v2;
24
                     if(x1 == x2) return "YES";
25
                while(x1 < x2);
                return "NO";
26
27 ▼
            }else{
28
                return "NO";
29
30
        }
31
32 ▼
        public static void main(String[] args) {
33
            Scanner in = new Scanner(System.in);
34
            int x1 = in.nextInt();
35
            int v1 = in.nextInt();
            int x2 = in.nextInt();
36
37
            int v2 = in.nextInt();
38
            String result = kangaroo(x1, v1, x2, v2);
39
            System.out.println(result);
40
        }
41
    }
42
                                                                                                                    Line: 1 Col: 1
```

<u>**1**</u> <u>Upload Code as File</u> Test against custom input

Run Code

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