Number Line Jumps ☆

Editorial by Wanbo

If $v_1 \leq v_2$, they will never meet.

It is required to check if a solution exists for the following equation:

$$x_1 + t * v_1 == x_2 + t * v_2$$

This is equivalent to checking if $(x_2 - x_1) \% (v_1 - v_2) == 0$.

Problem Tester's code:

Python 2

```
x1, v1, x2, v2 = map(int, raw_input().split())
X = [x1, v1]
Y = [x2, v2]
back = min(X, Y)
fwd = max(X, Y)
dist = fwd[0] - back[0]

while back[0] < fwd[0]:
    back[0] += back[1]
    fwd[0] += fwd[1]
    if fwd[0] - back[0] >= dist:
        break

print ["NO", "YES"][back[0] == fwd[0]]
```

Feedback

Was this editorial helpful?

Yes No