

Is Geometric Progression

oj.dcs.upd.edu.ph/problem/geomprog

Problem Statement

In a role-playing game, Momoi, Midori, and Yuzu have rr , gg , and yy experience points, respectively. Do rr , gg , and yy form a geometric sequence, **in that order**?

A *geometric sequence* is a sequence of numbers $s_1, s_2, s_3, \dots, s_1, s_2, s_3, \dots$ where there exists some real number rr such that $s_1r = s_2$, $s_2r = s_3$, and so on.

Task Details

Your task is to implement a function named `is_geometric_progression`, which should look like this:

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```
def is_geometric_progression(r, g, y):  
    return ...
```

Here, you only need to replace the `...` part with a **Python expression**.

The function must return a `bool` denoting the answer.

Your source code must have at most 200200 bytes.

Examples

Example 1 Function Call

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```
is_geometric_progression(1, 2, 4)
```

Example 1 Return Value

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```
True
```

Example 2 Function Call

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```
is_geometric_progression(1, 2, 3)
```

Example 2 Return Value

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```
False
```

Constraints

- The function `is_geometric_progression` will be called at most 10410^4 times.
- $0 \leq r, g, y \leq 10500 \leq r, g, y \leq 10^{50}$

Scoring

Note: New tests may be added and all submissions may be rejudged at a later time. (All future tests will satisfy the constraints.)

- You get 4040 ❤️ points if you solve all test cases where:
 - $r, g, y \in \{1, 2, 4\}$ $r, g, y \in \{1, 2, 4\}$
- You get 4040 ❤️ points if you solve all test cases where:
 - $r=1$ $r = 1$
 - $g, y \leq 10^8$ $g, y \leq 10^8$
- You get 4040 ❤️ points if you solve all test cases where:
 - $1 \leq r, g, y \leq 10^8$ $1 \leq r, g, y \leq 10^8$
- You get 4040 ❤️ points if you solve all test cases where:
 - $r, g, y \leq 10^8$ $r, g, y \leq 10^8$
- You get 4040 ❤️ points if you solve all test cases.

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Clarifications

No clarifications have been made at this time.