In Neither Half Interval

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

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Points: 200 (partial)

Time limit: 4.0s

Memory limit: 1G

Author:

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Problem type

Allowed languages

~~NONE~~, py3

Problem Statement

Scientists (?) predict that the sun will explode sometime starting from January 1, 12 AM of year a until **before** January 1, 12 AM of year b. Your best friend (?) predicts that the sun will explode sometime starting from January 1, 12 AM of year c until **before** January 1, 12 AM of year d.

If the sun explodes on year y, will **neither** the scientists **nor** your best friend be right?

Task Details

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

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```
def in_neither_half_interval(a, b, c, d, 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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```
in_neither_half_interval(2023, 2033, 2000, 2010, 2033)
```

Example 1 Return Value

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```
True
```

Example 2 Function Call

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```
in_neither_half_interval(2023, 2033, 2000, 2010, 2025)
```

Example 2 Return Value

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```
False
```

Constraints

- The function `in_neither_half_interval` will be called at most 10410^4 times.
- 1≤a<b≤10501 $\leq a < b \leq 10^{50}$
- 1≤c<d≤10501 $\leq c < d \leq 10^{50}$

- $1 \le y \le 10^{50}$

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 5050 ❤️ points if you solve all test cases where:
  - $a = c$ and $b = d$.
- You get 5050 ❤️ points if you solve all test cases where:
  - $b = c$
- You get 100100 ❤️ points if you solve all test cases.

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Clarifications

No clarifications have been made at this time.