Swiss Stig (Part 2)

Some say, Swiss Stig is wearing a helmet because he's actually a duck.

Some say, this is a Swede reference that got swapped out at the very last second.

Important message

This is a mult-part challenge. You may directly reuse solutions of later parts to solve earlier parts for full score.

Background

As the season progress and more interviews are conducted, Jeremy has learnt to observe, adapt, and improvise -- A master interviewer should not stick with the questions he drafted a priori, but shall play with the flow.

Here is how he adjusts the questions in real time...

1. Observe: Observe his accuracy on **this interview** so far, i.e. Answer to Jame's question if this interview only consist of questions he has asked thus far, **NOT** the accuracy of previous interviews!
2. Adapt: Adapt the range borders by the formula `from := (from + p*p1 + q*q1 - 1 mod MAX) + 1; to := (to + p*p2 + q*q2 - 1mod MAX) + 1` . The definitions are given in previous input and output sections.
3. Improvise: Swap the new values of from and in case if `from > to` , to keep the range non-degenerate.

Inputs, Outputs, Constraints

Input is similar to subtask 1, with coefficients now taking two pairs of integers that are not necessarily zeros.

```
0 <= coefficients.{x|y} <= 1e9
```

All other constraints remains identical.

Scoring

Subtask total: 400; You may reuse any solution to score another 400 points in part 1.

Endpoints

Expose an endpoint `/stig/ben`

Extra

This task is not an official task, but as a brain candy for the night

By now you should have realized Jeremy's methodology is extremely inefficient, so do Jeremy, hence he has decided to merge several intervals into a single question.

Inputs, Outputs, Constraints

1. The definition of "Question" type is reduced from "Singleton list of interval" to "Non-empty list of intervals".

All other constraints remains identical

Scoring

This task is neither scored nor judged.