# The boat

Let's imagine that you're designing the part of boat navigation system. The boat is moving from one point to next point along the line. It is possible to change course only at the end of line. The course is changing by the minimal possible angel. It is expected to determine whether the boat is turned right. The boat is turned right always when the sum of angels is greater than zero. Assume that whenever boat is turning right then sign of angel is positive and negative when turning left.

Example:

$$\mu = \alpha + \beta - \gamma$$
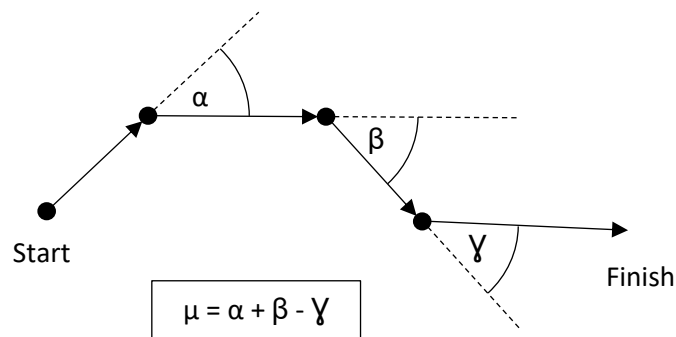
In the above picture sum of angels is represented by μ and when it is greater than zero then boat is turned right.

Input

The input is composed of two lines. First line contains one integer number $0 \leq n \leq 1\,000\,000$ which is always even number. This is the number of numbers in next line.
In the second line there is a sequence of numbers which should be considered as pairs describing points. In every pair first number $0 \leq x \leq 1\,000\,000$ is X coordinate and second number $0 \leq y \leq 1\,000\,000$ is Y coordinate. Sequence of points is path of sailing boat.

Output

Output contains always only one line with "True" or "False" word.
If it is possible to determine whether the boat is turned right and if it is turned right, then in the output program should put "True" word. In every other situation it is expected to put "False" word in the output.