

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

Z. Triangle

time limit per test: 2 seconds

memory limit per test: 64 megabytes

input: standard input

output: standard output

At a geometry lesson Bob learnt that a triangle is called right-angled if it is nondegenerate and one of its angles is right. Bob decided to draw such a triangle immediately: on a sheet of paper he drew three points with integer coordinates, and joined them with segments of straight lines, then he showed the triangle to Peter. Peter said that Bob's triangle is not right-angled, but is almost right-angled: the triangle itself is not right-angled, but it is possible to move one of the points exactly by distance 1 so, that all the coordinates remain integer, and the triangle become right-angled. Bob asks you to help him and find out if Peter tricks him. By the given coordinates of the triangle you should find out if it is right-angled, almost right-angled, or neither of these.

Input

The first input line contains 6 space-separated integers $x_1, y_1, x_2, y_2, x_3, y_3$ — coordinates of the triangle's vertices. All the coordinates are integer and don't exceed 100 in absolute value. It's guaranteed that the triangle is nondegenerate, i.e. its total area is not zero.

Output

If the given triangle is right-angled, output RIGHT, if it is almost right-angled, output ALMOST, and if it is neither of these, output NEITHER.

Examples

input	Copy
0 0 2 0 0 1	
output	Copy
RIGHT	
input	Copy
2 3 4 5 6 6	
output	Copy
NEITHER	
input	Copy
-1 0 2 0 0 1	
output	Copy
ALMOST	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

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- Sheet #10 (General Hard)
- Sheet #9 (General medium)
- Sheet #8 (General easy)
- Sheet #7 (Recursion)
- Sheet #6 (Math - Geometry)
- Sheet #5 (Functions)
- Sheet #4 (Strings)
- Contest #3.1
- Sheet #3 (Arrays)
- Contest #2
- Sheet #2 (Loops)
- Contest #1
- Sheet #1 (Data type - Conditions)

Sheet #10 (General Hard)

Finished