

Problem D. Drawing Lines

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 512 mebibytes

This is an interactive problem.

The jury has an image of a straight line segment with endpoints (X_1, Y_1) and (X_2, Y_2) . The coordinates satisfy the following constraints:

- $X_1, Y_1, X_2, Y_2 \in [-10\,000; 10\,000]$.
- The length of the segment is at least 100.

Your task is to produce the same image.

You are allowed to create several images of the same kind: images of a straight line segment with endpoints (x_1, y_1) and (x_2, y_2) . After you created an image, you will get the similarity (sim) of your image and jury's by the following formulas:

$$\text{dst}(a_1, b_1, a_2, b_2) = \sqrt{(a_1 - a_2)^2 + (b_1 - b_2)^2};$$

$$s = \min(\text{dst}(x_1, y_1, X_1, Y_1) + \text{dst}(x_2, y_2, X_2, Y_2), \text{dst}(x_1, y_1, X_2, Y_2) + \text{dst}(x_2, y_2, X_1, Y_1));$$

$$\text{sim} = \max\left(0, \frac{40\,000 - s}{40\,000}\right).$$

The goal is to make an image with 100% similarity using no more than 25 000 tries.

Interaction Protocol

To draw a line segment, print a single line with four integers x_1, y_1, x_2, y_2 ($-10\,000 \leq x_1, y_1, x_2, y_2 \leq 10\,000$). This line denotes an image containing the straight line segment between points (x_1, y_1) and (x_2, y_2) . The length of the segment must be strictly positive.

After generating an image, the jury's program will output a line containing a real number with one digit after the decimal point: the similarity of the images in percent, **rounded down to tenths**. Your program should continue generating images until it receives a similarity of 100%. Once 100% similarity is achieved, your program must terminate.

The number of produced images must not exceed 25 000. Note that only one of the generated images (up to the order of endpoints) can have 100% similarity to the jury's image.

In each test, the jury's image is fixed in advance and does not adapt to the participant's output.

Example

standard input	standard output
29.4	-10000 -10000 10000 10000
94.9	0 -1000 0 1000
99.7	100 -10 -100 10
99.9	-70 0 70 0
99.7	-50 0 -50 1
99.9	50 0 -50 1
100.0	50 0 -50 0