from 1 to 4, as shown in the diagram below:

Quadrant Selection

A common problem in mathematics is to determine which quadrant a given point lies in. There are four quadrants, numbered

Problem ID: quadrant **CPU Time limit:** 1 second **Memory limit:** 1024 MB

Difficulty: 1.2

Source: Canadian Compi Competition 2017

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Quadrant 2	Quadrant 1	
B (-12, 5) •	• A (12, 5)	
C (-12, -5)•	•D (12, -5)	
Quadrant 3	Quadrant 4	

For example, the point A, which is at coordinates (12, 5) lies in quadrant 1 since both its x and y values are positive, and point B lies in quadrant 2 since its x value is negative and its y value is positive.

Your job is to take a point and determine the quadrant it is in. You can assume that neither of the two coordinates will be 0.

Input

The first line of input contains the integer x ($-1000 \le x \le 1000; x \ne 0$). The second line of input contains the integer y ($-1000 \le y \le 1000; y \ne 0$).

Output

Output the quadrant number (1, 2, 3 or 4) for the point (x, y).

Sample Input 1	Sample Output 1	
10	1	
Sample Input 2	Sample Output 2	