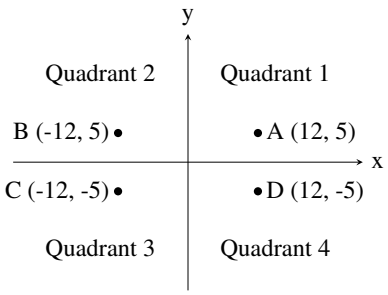
A1 – Quadrant Selection

A common problem in mathematics is to determine which quadrant a given point lies in. There are four quadrants, numbered from 1 to 4, as shown in the diagram below:



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 ($-1000 \leqslant x \leqslant 1000$; $x \neq 0$). The second line of input contains the integer y ($-1000 \leqslant y \leqslant 1000$; $y \neq 0$).

Output

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

Examples

Input:
12 5

Output:
1

Input:
9 -13

Output:
4