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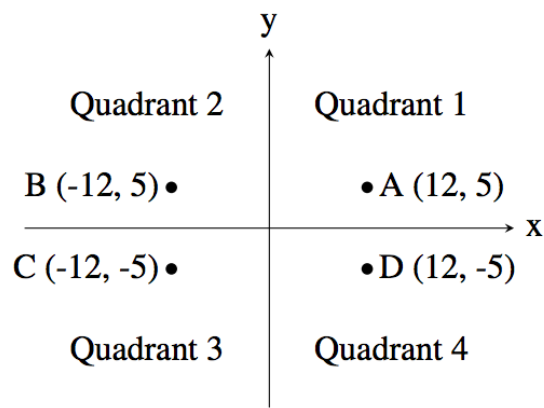
For example, the point A, which is at coordinates $(12, 5)$ lies in quadrant 1 since both its x and y values are positive, and point B lies in quadrant 2 since its x value is negative and its y value is positive.

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 ($-1000 \le x \le 1000; x \ne 0$). 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

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10
6
```

Sample Output 1

```
1
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Sample Input 2

```
9
−13
```

Sample Output 2

```
4
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