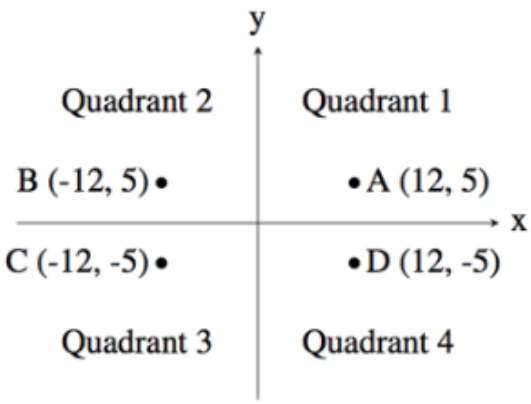
Quadrant Selection

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

Output

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

Sample Input 1

```
10
6
```

Sample Output 1

```
1
```

Sample Input 2

```
9
-13
```

Sample Output 2

```
4
```

```
import sys #imported the sys library to exit the program when need be
x = int(input()) #declared variable to take in x coordinate
if x <-1000 or x >1000 or x ==0:
    sys.exit()
y = int(input()) #declared variable to take in y coordinate
if y<-1000 or y>1000 or y ==0:
    sys.edit()
if x >=0 and y >=0: #quadrant 1
    print("1")
elif x<0 and y>=0:#quadrant 2
    print("2")
elif x>=0 and y<0:#quadrant 4
    print("4")
else: #quadrant 3
    print("3")
```