



**acm** International Collegiate  
Programming Contest

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# 2010 ACM ICPC Southeast USA Regional Programming Contest

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## PRACTICE PROBLEMS

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Hosted by:

**Florida Institute of Technology**  
**Armstrong Atlantic State University**  
**University of West Florida**





## A: Which is Greater?

Given two positive integers, determine whether the first one is larger than the second one.

### Input

There will be several test cases in the input. Each test case will consist of two space-separated positive integers on a single line. The input will end with a line containing two 0s.

### Output

For each test case, print the 1 if the first number is greater than the second. Print 0 otherwise. Print each answer on its own line with no spaces. Do not print any blank lines between answers.

### Sample Input

```
1 19
4 4
23 14
0 0
```

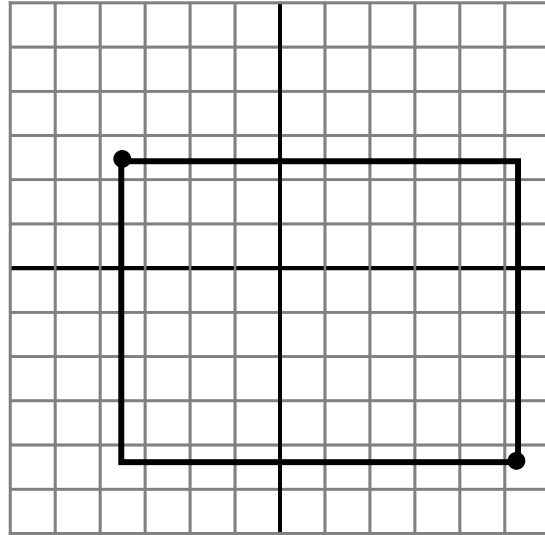
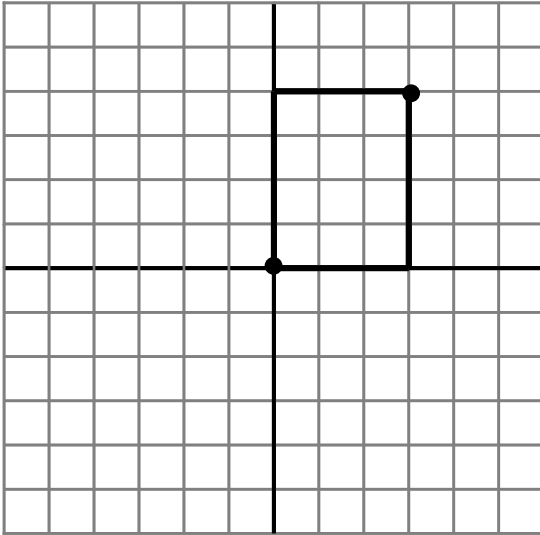
### Sample Output

```
0
0
1
```



## B: Rectangle Area

Given diagonal corners of a rectangle with sides parallel to the X and Y axes, compute its area.



### Input

There will be several test cases in the input. Each test case will consist of four real numbers on a single line. These numbers represent:

$x1 \ y1 \ x2 \ y2$

Where  $(x1, y1)$  and  $(x2, y2)$  are diagonal corners of a rectangle.

All four numbers will be in the range from -100.0 to 100.0. It is guaranteed that  $x1 \neq x2$ , and  $y1 \neq y2$ . No rectangle will have an area smaller than 0.01. The input ends a line with four 0.0s. There will be no blank lines.

### Output

For each test case, output a single real number, representing the area of the given rectangle. Print this number with exactly two decimal places, rounded. Print each number on its own line with no spaces. Do not print any blank lines between answers.

### Sample Input

```
0 0 3 4
5.2 -4.64 -3.47 2.2
0.0 0.0 0.0 0.0
```

### Sample Output

```
12.00
59.30
```



## C: Count the Vowels

Given lines of text, count the vowels! For this problem, the only vowels are A, E, I, O and U. No other letters will be considered vowels for the purposes of this problem.

### Input

There will be several test cases in the input. Each test case will consist of a single line of data. The data will be ASCII text, with no special characters. There will be only letters, numbers, printable symbols, and spaces. There will be no control characters, and the only white space within a line will be the space character. Each line will have at least 1 and at most 80 ASCII characters, and each line is guaranteed to have at least one non-whitespace character. The input will end with a line containing only a single asterisk (\*), which should not be processed.

### Output

For each line of text, print the number of vowels as an integer, on its own line with no spaces. Do not print any blank lines between outputs.

### Sample Input

```
This is a test.  
How many vowels in "sky"?  
Are you sure you can handle both CAPITAL and lower case?  
D. J. Pike flung Q. V. Schwartz my box.  
*
```

### Sample Output

```
4  
5  
20  
5
```