

# JudgeIt!

The Virtual Learning Environment for Computer Programming

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## Fermat's last theorem (3)

P90697\_en

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This is another exercise about Fermat's last theorem, which was explained in the exercise `LINK : :FERM1`.

Write a program that, for every given quartet  $a, b, c, d$  with  $a \leq b$  and  $c \leq d$ , prints a natural solution of the equation

$$x^2 + y^2 = z^2$$

such that  $a \leq x \leq b$  and  $c \leq y \leq d$ .

### Input

The input has several lines, each one with four natural numbers  $a, b, c, d$  such that  $a \leq b$  and  $c \leq d$ .

### Output

For each line of the input, print a line following the format of the examples, with a natural solution of the equation

$$x^2 + y^2 = z^2$$

that fulfills  $a \leq x \leq b$  and  $c \leq y \leq d$ . If there are several solutions, print the one that has the smallest  $x$ . In the event of a tie in the  $x$ , print the solution that has the smallest  $y$ . If there are no solutions, print "No solution!".

### Sample input

```
2 5 4 13
1 1 2 3
```

### Sample output

```
3^2 + 4^2 = 5^2
No solution!
```

### Problem information

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