
Fermat's last theorem (2)

P18203_en

This is another exercise about Fermat's last theorem. (See the exercise P36430: "Fermat's last theorem (1)".)

Write a program such that, given a sequence of lines, each one with four natural numbers a, b, c, d with $a \leq b$ and $c \leq d$, prints the first natural solution to the equation

$$x^3 + y^3 = z^3$$

that fulfills the restrictions of a line: $a \leq x \leq b$ and $c \leq y \leq d$.

Input

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

Output

Print a line following the format of the examples, with a natural solution to the equation

$$x^3 + y^3 = z^3$$

that fulfills the restrictions of a line. If there are two or more lines with solution, print the first found. If there are several solutions for the same line, print the one with the smallest x . If there is a tie in x , print the solution with the smallest y . If there are no lines with solution, print "No solution!".

Sample input 1

```
2 5 4 13
```

Sample input 2

```
1 1 1 1
0 1 0 1
1 100 1 100
```

Sample output 1

```
No solution!
```

Sample output 2

```
0^3 + 0^3 = 0^3
```

Problem information

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Generation : 2016-12-14 09:56:14

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