Fermat’s last theorem (1)

A famous theorem of the mathematician Pierre de Fermat, proved after more than 300 years, states that, for any natural number \( n \geq 3 \), there is no natural solution (except for \( x = 0 \) or \( y = 0 \)) to the equation
\[
x^n + y^n = z^n.
\]
For \( n = 2 \), by contrast, there are infinite non-trivial solutions. For instance, \( 3^2 + 4^2 = 5^2 \), \( 5^2 + 12^2 = 13^2 \), \( 6^2 + 8^2 = 10^2 \), \ldots.

Write a program that, given four natural numbers \( a, b, c, d \) with \( a \leq b \) and \( c \leq d \), prints a natural solution to the equation
\[
x^2 + y^2 = z^2
\]
such that \( a \leq x \leq b \) and \( c \leq y \leq d \).

Input

Input consists of 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
\[
x^2 + y^2 = z^2
\]
that fulfills \( a \leq x \leq b \) and \( c \leq y \leq d \). If there is more than one solution, 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 solutions, print “No solution!”.

Sample input 1

2 5 4 13

Sample output 1

3^2 + 4^2 = 5^2

Sample input 2

1 1 1 1

Sample output 2

No solution!