Fermat's last theorem (3) P94857_en

This is another exercise about Fermat's last theorem, which was explained in the exercise

Write a program that, given four natural numbers a, b, c, d with $a \leq b$ and $c \leq d$, prints the number of solutions to the equation

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

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

Input

Input has several cases. Each case consists of four natural numbers a, b, c, d such that $a \leq b$ and $c \leq d$.

Output

For every case, print in a line the number of solutions to the equation

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

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

Sample input

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

Sample output

```
2
0
```

Problem information

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