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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Generation: 2023-07-14 18:26:46

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