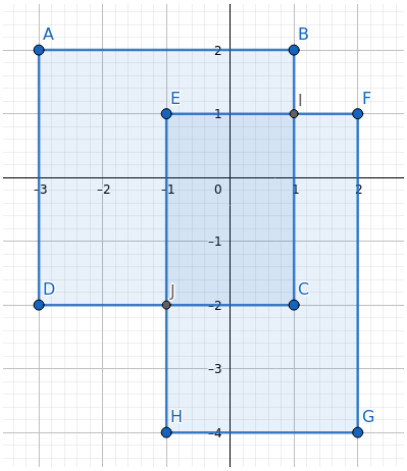
Rectangle Intersection

If two rectangles with sides that are parallel to the x and y axes intersect, then their intersection forms a third rectangle. For example, below are two rectangles ABCD and EFGH, and their intersection is the rectangle EICJ.



Given two rectangles with sides parallel to the x and y axes and whose corners have integer coordinates, you are to determine the *area* of the intersection of the two rectangles. In the example above the area of the intersection is 6, since the intersection has a width of 2 and a height of 3.

Input

Your program will receive two lines of input via standard input, each line representing a rectangle. Each line will be of the following form:

```
x1 y1 x2 y2
```

The points $(x1, y1)$ and $(x2, y2)$ represent corners of a rectangle which are diagonally opposite one another. Any particular rectangle could be represented in multiple ways, depending on which points are chosen in which order. For example, below are two of the many possible ways to represent the two rectangles illustrated above:

```
-3 2 1 -2
2 1 -1 -4
```

or:

```
-3 -2 1 2
-1 1 2 -4
```

You may assume that each coordinate value is less than 100.

Output

Your output should be a single integer representing the area of the intersection of the two rectangles. If the rectangles do not intersect, output 0.

Example 1

The following is a sample input for this problem:

```
-3 -2 1 2
-1 1 2 -4
```

The following is the correct output for the input above:

```
6
```

Example 2

The following is a sample input for this problem:

```
2 -1 10 6
1 4 -3 -15
```

The following is the correct output for the input above:

```
0
```