The Interview Question

Nirmal cleared the programming round for Microsoft internship interview from college. He was really passionate about solving problems he never saw before. During one of the technical rounds , the interviewer asked Nirmal the following question. Given two rectangles with integral coordinates, find the area of intersection of the two rectangles. Nirmal was trying to figure it out so that he could impress the interviewer. Why don't you try to help him out ?

Note that all the coordinates are integers and the intersection of two rectangles takes place only at integral coordinates.

Note that the height of the rectangle is parallel to the y axis of the coordinate system and the breadth of the rectangle is parallel to the x axis of the coordinate system.

Input Format

First line of the input contains 2 space separated integers x1 and y1 which indicates the coordinates of the top left corner of rectangle 1.

Second line of the input contains l1 and b1, the length and breadth of rectangle 1.

Third line of the input contains 2 space separated integers x2 and y2 which indicates the coordinates of the top left corner of rectangle 2.

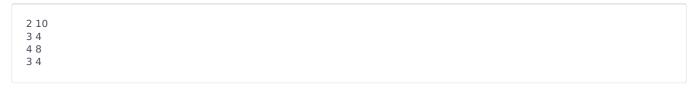Fourth line of the input contains l2 and b2,the length and breadth of rectangle 2.

Constraints

- -500 <= x1,y1,x2,y2 <= 500
- 1 <= l1,b1,l2,b2 <= 500

Output Format

Print the area of overlap of the two rectangles.

Sample Input 0

```
2 10
3 4
4 8
3 4
```

Sample Output 0

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2
```

Explanation 0

Consider the figure. The over lapping rectangle's top left corner is (4,8). It's length and breadth are 1 and 2 respectively. Hence it's area is 1*2 = 2