
Rectangle overlap

X54942_en

Using the definitions

```
class Point:
    """attributes: x, y"""

class Rectangle:
    """attributes: width, height, corner"""
```

and the function `point_in_rectangle` from problem X53379 (Point in rectangle), write a function `rectangle_overlap(r1, r2)`

that returns `True` if a corner of a rectangle `r1` falls inside or on the boundary of a rectangle `r2` but the opposite corner of `r1` falls outside `r2` or, conversely, if a corner of `r2` falls inside or on the boundary of `r1` but the opposite corner of `r2` falls outside `r1`, and `False` otherwise. For example, a rectangle of width 50, height 100, and lower-left corner (0,0) and a rectangle of width 50, height 100, and lower-left corner (25,50) overlap, but a rectangle of width 50, height 100, and lower-left corner (0,0) and a rectangle of width 50, height 100, and lower-left corner (75,50) do not.

Input

The input consists of several pairs of rectangles (four non-negative integer numbers for each: the width, the height, and the coordinates of the lower-left corner).

Output

For each pair of rectangles, print whether or not they overlap.

Sample input

```
50 100 0 0      50 100 25 50
50 100 25 50    50 100 0 0
50 100 0 0      50 100 75 50
50 100 75 50    50 100 0 0
50 100 0 0      25 50 0 0
25 50 0 0        50 100 0 0
```

Sample output

```
True
True
False
False
True
True
```

Problem information

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