2072   The Flat Cupboard

The reading of "Flatland: A Romance of Many Dimensions" by *Edwin Abbott* had a profound, and rather unusual, effect on young Bob and his mother too. Bob started to only use things that are either flat or with flat sides: Soup bowls, dishes, glasses, mugs, and even the cutlery. However the annoying part, for his mother that is, was the way he re-organized the cupboard. Bob removed all the shelves and drew a grid, with integer coordinates, (0 0) for the lower left corner and (1000 1000) for the upper right corner, on the back of the cupboard. Bob will always stack the crockery neatly on top of each other. Neatly means aligned with his grid, so that he can record the location of each item by four integers that describe the coordinates of its lower left corner and its upper right corner. For the example, the red mug (labelled with Zs) is described by the four integers (1 0 3 3).

Bob's mother will not move a crockery item unless no other item in the cupboard exists vertically above it. This way she can be sure that none of Bob's precious mugs/glasses gets broken. Examples are: taking the yellow mug (labelled with Xs) requires her to move the grey "rectangular" soup bowl (labelled with Ss) first, and taking the grey mug (labelled with Ys) requires her to move four items first.

Your task is to write a program to calculate for Bob's mother the number of items she must move before she can remove the item of her choice.

Input

Input to this problem consists of a sequence of one or more situations. Several lines describe each situation as follows:

- The first line contains the number of crockery items M, $0 < M < 100$; given as an integer.

- The second line consists of $4 * M$ integers (i.e., M pairs of 2-dimensional coordinates), separated by a single space, that describe the exact positions of crockery items in the flat cupboard.

- The third line consists of four (4) integers (i.e., a pair of 2-dimensional coordinates), separated by a single space, that describe the exact position of the item to be removed.

The input will be terminated by a line that consists of a zero (0). This line should not be processed.

Output

For each situation, the output is a single line that contains the number of objects to be removed before the desired item can be removed in accordance with Bob's mother desires.

Sample Input

```
5
0 0 4 4 3 4 6 6 5 0 7 4 4 6 5 8 20 0 21 21
20 0 21 21
4
0 0 4 4 3 4 6 6 5 0 7 4 4 6 5 8
0 0 4 4
0
```

Sample Output

```
0
2
```