

10256 The Great Divide

Somewhere in Gaul, there is a little village very like the village where **Asterix** and **Obelix** live. Not very long ago they had only one chief **Altruistix** and peace reigned in the village. But now those happy days are just dreams. The villagers are now divided. Some of the villagers have elected **Majestix** as their chief and the others have elected **Cleverdix**.



Majestix



Cleverdix

The two chiefs have decided to divide the village into two parts by digging a straight ditch through the middle of the village so that the houses of the supporters of **Majestix** lie on one part and those of the followers of **Cleverdix** lie on the other. So, they have invited **Getafix**, the venerable druid of **Asterix**'s village, to figure out whether such a dividing line exists or not.



Getafix

Since **Getafix** knows that you are so good in programming, he seeks your help.

Input

The input may contain multiple test cases.

The first line of each test case contains two integers M and C ($1 \leq M, C \leq 500$), indicating the number of houses of the supporters of **Majestix** and **Cleverdix** respectively.

Each of the next M lines contains two integers x and y ($-1000 \leq x, y \leq 1000$) giving the co-ordinates of the house of a supporter of **Majestix**. For convenience each house is considered as a single point on the plane.

Each of the next C lines contains two integers x and y ($-1000 \leq x, y \leq 1000$) giving the co-ordinates of the house of a supporter of **Cleverdix**.

The input will terminate with two zeros for M and C .

Output

For each test case in the input output a line containing either 'Yes' or 'No' depending on whether there exists a straight line that divides the two set of houses. The dividing line can NOT contain points of both sides.

Sample Input

```
4 3
100 600
200 400
600 500
300 700
400 100
600 200
500 300
4 3
100 600
400 100
600 200
500 300
200 400
600 500
300 700
0 0
```

Sample Output

```
Yes
No
```