A. Popping Balloons in a Box

Problem Description

You've got a bunch of balloons in a box and you decide to have some fun. Instead of popping them the normal way you decide to make a game out of it using your little cousins plastic building bricks. You take a handful of them and decide to drop them on certain spots in the box to see how many you can pop.

Before you drop them you want to see how many you can pop. Given the locations of the balloons and locations where you will drop each brick (and assuming that the brick will only pop the balloon if a pointy corner hits a balloon, if no corners will collide with the balloon it will not pop) you want to figure out how many balloons will be popped by dropping the bricks in the box. Because it is a box this means that multiple balloons can be stacked on top of each other.

Balloons will only pop when a corner of a brick falls within the balloon, if no corner of the brick is within the balloon then it will not pop but that brick can still pop other balloons.

Input

The first line of input for each case will begin with m and n on a line by itself where m is the number of balloons and n is the number of bricks you will be dropping.

What follows is m lines containing descriptions of the balloon size and location each on a separate line of the form: `x y radius` where x, y and *radius* are real numbers. Followed by this are n lines containing descriptions for each of the bricks of the form `x1 y1 x2 y2` where the pair (*x1*, *y1*) represents the bottom left corner of the brick and (*x2*, *y2*) represents the top right corner of the brick.

Input will end on a line where m and n are both zero.

NOTE: *Use double instead of float to avoid precision problems*

Output

For each test case output on a separate line: `Popped b balloons`

Sample Input

```
2 2
0.0 51.2 12.3
51.2 0.0 12.3
6.2 50.0 18.1 64.3
50.0 6.2 64.3 18.1
0 0
```

Sample Output

```
Popped 2 balloons
```