

## Birds

Birds living in a forest have their own rectangular area around their nest for feeding and mating. Such an area is called a *territory*. If territories of two birds intersect, the birds may start a fight. Develop a console application in C# which can determine

- birds with non-intersecting territories,
- the most dangerous place where the maximal number of territories intersect,
- places that do not belong to any bird.

The data of the birds are stored in the file `birds.in`. In its first line there is the number of birds  $N$  and the dimensions of the forest. The next  $N$  lines are the positions of nests and the radii of territories separated by semicolons. For example, if bird  $i$  has its nest at  $(x_i, y_i)$  and its territory has radius  $r$  then the top-left corner of its territory is at  $(x_i - r, y_i - r)$  while the bottom-right corner is at  $(x_i + r, y_i + r)$ . Positions that are out of the forest can be ignored.

Put the answers for the three questions into the file `birds.out`. The first line of this file should store the indexes of non-fighting birds, the second line the co-ordinates of the most dangerous place and the number of intersecting territories, finally the third line should store the number of empty places. Also, design and implement a nice-looking user interface for the application using console graphics.

Use object-oriented programming for both desing and implementation!

Example.

**birds.in**

```
5;10
3;3;1
10;3;5
5;5;2
1;9;1
2;5;1
```

**birds.out**

```
4
3;3;4
26
```

			5	5	5		4	<u>4</u>	4
	1	1	15	<u>5</u>	5		4	4	4
	1	<u>13</u>	135	35	35	3			
	1	13	13	3	3	3			
2	2	23	23	<u>23</u>	23	23	2		
2	2	23	23	23	23	2	2		
2	2	23	23	23	23	2	2		
2	2	2	2	2	2	2	2		
2	2	2	2	2	2	2	2		
2	2	<u>2</u>	2	2	2	2	2		