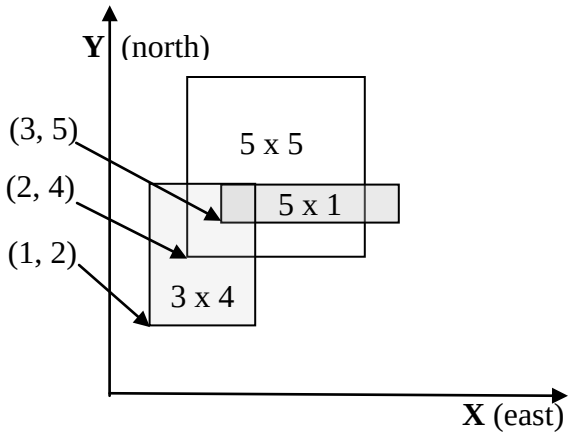
7 Coverage
Input File: CoverageIn.txt

Old McDonald has a farm, and has hired a firm to partially cover several of his planting fields with rectangular tarpaulins to reduce weed growth. He has specified that the width and height of the tarpaulins run east-west and north-south respectively. After completing the task, the workers realized that some of the tarpaulins overlap, and the firm agreed to only charge Mr. McDonald for the *net* area covered. That is, they will only charge him once for areas of the field covered by two or more tarpaulins. For example, Mr. McDonald would be charged for 34 square feet of *net* coverage for the three tarpaulins positioned as shown below.



Your task is to determine the net coverage and net cost of the tarpaulin installation on each planting field given the locations and sizes of the tarpaulins, and the cost per square foot of net coverage.

Inputs:
The first line of input will be the number of planting fields to consider, **p**, followed by one group of inputs for each field. The first line in a grouping will contain an integer, **n**, that represents the number of tarpaulins placed in the field, followed by an integer that represents the cost of the tarpaulin installation per *net* square foot. This will be followed by **n** lines of input, one line per tarpaulin that contains four integers. These integers represent the width of the tarpaulin, followed by its height, followed by the x and y coordinates of its lower left corner. The units of coordinate system and the tarpaulin sizes is feet, and all inputs on a line are separated by a space.

Outputs:
There will be one line of output per planting field that contains two integers separated by a space. The first number will be the net area of the planting field covered by the tarpaulins, and the second number will be the cost of the installation.

(Sample inputs and outputs on next page)

Sample Inputs

```
2
3 100
3 4 1 2
5 5 2 4
5 1 3 5
5 200
5 5 2 1
5 2 0 2
4 5 1 0
3 4 3 3
1 2 0 1
```

Sample Outputs:

```
34 3400
39 7800
```