Challenge Question 1

Cut-off Date: Until it is solved. 333 points
Note that this a challenge question. The first correct answer will get all the points. Once a right answer is accepted, no points will be given to other submissions. You need to present and argue why your approach is right.

The Question

Given a set of rectangles, pick a subset of non overlapping rectangles that has the largest total area.

The Input

The first line is the number of rectangles. Subsequent lines provide the two opposite corners of rectangles. Each line will container only one rectangle.

The Output

The size of the subset, the total area of the rectangles in the subset, and the rectangles in the subset.

Sample Input

```
5
0 0 10 10
0 10 10 20
10 0 20 10
10 10 20 20
9 9 11 11
```

Sample Output

```
4
400
0 0 10 10
0 10 10 20
10 0 20 10
10 10 20 20
```