

# Overlapping Squares

You are given  $N$  ( $1 \leq N \leq 20000$ ) squares on  $X$ - $Y$  plane. Your task is to find the area which is common to all the squares (Area of intersection of all the squares)

## Input

The first line contains  $T$ , the number of test cases. Then  $T$  test cases follow. First line of each test case contains  $N$ , the number of squares. Each of following  $N$  lines contain 3 integer ( $X, Y, L$ ) coordinate of lower left vertex and size of the square.

$-10^9 \leq X, Y \leq 10^9$   $1 \leq L \leq 10^9$

## Output

For each test case print the answer in a new line.

## Example

**Input:**

```
2
2
0 0 10
1 1 11
2
10 10 25
1 1 3
```

**Output:**

```
81
0
```