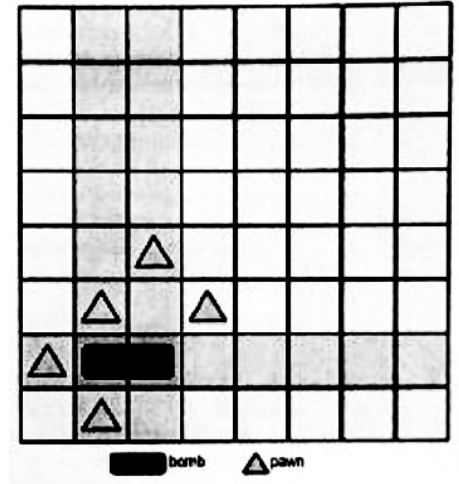


7141 BombX

In an infinite chess board, some pawns are placed on some cells. You have a rectangular bomb that is W width and H height. The bomb's orientation is fixed, you can't rotate it. The bomb can only be placed on an **entirely unoccupied** area. The bomb explodes both horizontally and vertically, killing all pawns that are in the cross shape (see picture on the right).

Your mission is to choose the placement of the bomb, and maximize the number of bombed pawns.

The picture corresponds to the first test case in the sample.



Input

The first line of the input gives the number of test cases, T . T test cases follow. Each test case starts with a line containing N , W , H , indicating number of pawns, width of the bomb, height of the bomb, respectively.

N lines follow. Each line contains 2 integers: x , y , indicating there is a pawn on cell (x, y) . No two pawns are in the same cell.

Output

For each test case, output one line containing 'Case # x : y ', where x is the test case number (starting from 1) and y is the maximum number of bombed pawns.

Limits:

$1 \leq T \leq 10$,
 $1 \leq N \leq 10^5$,
 $0 \leq W, H, x, y \leq 10^7$

Sample Input

```

2
5 2 1
0 1
1 0
1 2
2 3
3 2
7 1 1
1 1
2 2
3 3
4 4
4 1
5 1
2 4
  
```

Sample Output

Case #1: 4

Case #2: 5