Given n points on the XY plane, count how many regular rectangles are formed. A rectangle is regular if and only if its sides are all parallel to the axis.

Input

The first line contains the number of tests t ($1 \leq t \leq 10$). Each case contains a single line with a positive integer n ($1 \leq n \leq 5000$), the number of points. There are n lines follow, each line contains 2 integers x, y ($\leq x, y \leq 10^9$) indicating the coordinates of a point.

Output

For each test case, print the case number and a single integer, the number of regular rectangles found.

Sample Input

```
2
5
0 0
2 0
0 2
2 2
1 1
3
0 0
0 30
0 900
```

Sample Output

```
Case 1: 1
Case 2: 0
```