Fine Dining

After solving problems all day, every day for the last few weeks, Lea decided to calm down a little and celebrate. She invited all of her friends and together they went to have a nice evening out at a very fancy local restaurant - the "Highlander Restaurant".

A waiter in fine apparel approached them and explained the menu. Naturally, the group began discussing what they wanted to order from the extravagant menu. Soon, everybody settled on a main dish and a beverage.

The waiter also explained that there was a special for groups - the "Highlander Menu". In this special menu, the group would be given exactly one of everything on the menu, i.e. one Pizza Salami, one Lasagna, one bottle of Merlot, one bottle of craft beer, etc..

Lea, intrigued, loved the idea. But since everybody had already chosen their favorite food and beverage, how many people would actually get what they wanted?

Input

The first line of the input contains an integer t. t test cases follow, each of them separated by a blank line.

Each test case starts with a single line containing three integers n m b, where n is the number of people ordering (Lea included), m is the number of different main dishes on the menu and b is the number of different beverages on the menu (numbered from 1 to m and 1 to b, respectively). n lines follow detailing the preferences of Lea and her friends. The i-th line contains two integers m_i b_i, specifying that friend i wants to eat main dish m_i and drink beverage b_i.

Output

For each test case, output one line containing "Case #i: y" where i is its number, starting at 1, and y is the maximum number of friends that could get their favorite main dish and beverage if Lea ordered the "Highlander Menu".

Constraints

- $1 \leq t \leq 20$
- $1 \leq n, m, b \leq 500$
- $1 \leq m_i \leq m, 1 \leq b_i \leq b$ for all $1 \leq i \leq n$

Sample Input 1	Sample Output 1
2 2 2 2 1 2 2 1 3 2 2 1 2 1 1 2 2	Case #1: 2 Case #2: 2

Sample Input 2

```
7
5 6 5
2 4
5 3
6 4
5 1
6 5

10 9 4
7 3
5 2
4 1
7 3
7 3
3 4
1 3
4 1
2 1
3 2

2 3 6
3 1
1 4

1 7 6
1 1

6 9 1
7 1
2 1
3 1
9 1
7 1
5 1

1 9 3
9 2

5 10 8
5 3
10 1
10 2
10 5
9 8
```

Sample Output 2

```
Case #1: 3
Case #2: 4
Case #3: 2
Case #4: 1
Case #5: 1
Case #6: 1
Case #7: 3
```