Problem B
3D Shoot Bubble Game

Input File: *testdata.in*
Time Limit: 3 seconds

Problem Description

Shoot Bubble is a famous mobile game. Now, the *3D Shoot Bubble* is published! The bubbles are now hanged on the ceiling. Bubbles are connected by sticks, so there are more space and choices for players to shoot. A bubble does not drop if and only if it is directly connected to the ceiling, or connected to some bubble that does not drop. Now you have a chance for a special shot. You can shoot any bubble you want. All the connections to the bubble will be broken and the bubble will drop down to the floor. Due to the broken connections, some other bubbles may drop down also. The score you get is the number of bubbles dropped after your shot. However, there is a target value K such that if you cannot get at least K points by this shot, you will lose the game. Please find how many ways you have to get at least K points.

Take Figure 1 as an example, and suppose that $K = 2$. You can shoot bubble B4 so that B4 and B5 will drop, or shoot B1 so that B1, B4 and B5 will drop, or shoot B3 so that B3 and B6 will drop. In contrast, if we shoot any other bubble, only 1 bubble will drop. Thus, the desired number of ways is 3 (Shooting B1, B3, or B4). In Figure 2, if $K = 3$, then the only way to drop at least 3 bubbles is to shoot B1, so as to make B1, B2, B3 and B4 drop. Thus, the desired number of ways in this case is 1.

Technical Specifications

1. The number of test cases would be smaller than or equal to 100.

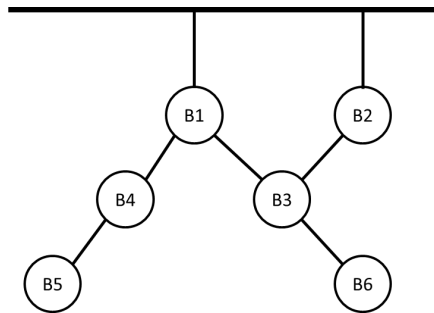2. The number of balls, N, would satisfy $0 \le N \le 10^5$.

1

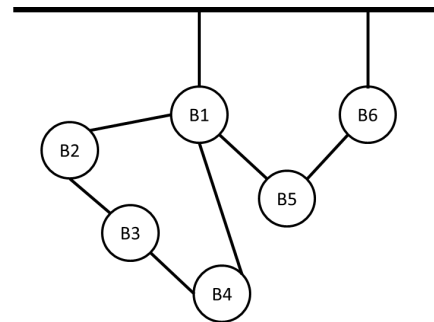Figure 1: Three ways to get at least 2 points.

Figure 2: One way to get at least 3 points.

3. The number of sticks, M, would satisfy $0 \leq M \leq 10^6$.

4. The target score K would satisfy $0 \leq K \leq N$.

5. Each stick is specified by two integers A and B, with $0 \leq A < B \leq N$. If $A = 0$, Bubble B is directly connected to the ceiling. Else, Bubble A and Bubble B are connected by a stick.

Input Format

The first line of the input file contains an integer indicating the number of test cases to follow. In each test case, the first line contains three integers N, M, and K; then, M lines follow, each line contains two integers A and B, representing a stick.

Output Format

For each test case, output the number of ways to get at least K points.

Sample Input

```
2
6 7 2
0 1
```

20140424

```
0 2
1 4
1 3
4 5
3 6
2 3
6 8 3
0 1
1 5
5 6
0 6
1 2
1 4
2 3
3 4
```

Sample Output

```
3
1
```