Bon Voyage (or Muddle over Cruise Cabins)

Problem Statement

The TransContinental Ocean-liner Company is celebrating their centennial anniversary. As a part of the celebrations, they launched an exciting contest for a free, around-the-world cruise on one of their ships. As part of the contest entry, passengers select two cabins in which they would like to stay. If they are a winner, they will be given one of the two cabins.

Interest was enormous, and great many people applied to be a part of the voyage. Winners will be decided on a lottery. The company does not have any control over whom all will win the final lottery or obtain the tickets, but only on how many tickets will be distributed.

Jerry, the tour manager, is finding it difficult to find the maximum number of prizes that can be awarded. He must make sure that each potential winner can be accommodated in one of the cabins that they specified when they entered the contest.

Your job is to find the maximum number of prizes that can be awarded subject to this constraint. Help Jerry to find a solution for his problem and earn some real good points for yourselves!

Input Format

The input begins with an integer T, $1 <= T <= 15$, indicated the number of test cases.

Each test case consists of the following:

- A line containing an integer N, $2 <= N <= 200$, where N is the total number of rooms on the ship.
- A line containing an integer M, $0 <= M <= 500$, where M are the number of people who signed up.
- Next come M lines, the i^{th} line containing the pair of cabins selected by the i^{th} entrant in the contest. The cabin choices will be two space-separated integers, each falling between 1 and N (inclusive).

Output Format

For each test case, you should output, on a line by itself, the maximum number of tickets that can be awarded such that every winner can be housed in one of the two cabins that they have selected.

Sample Input

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

```
5
1 2
1 3
1 2
2 3
3 4
5
11
1 2
2 3
3 4
4 5
1 5
2 4
3 4
3 5
2 5
1 2
3 5
3
6
1 2
1 2
1 3
2 3
1 2
1 3
```

Sample Output

```
4
2
3
3
2
```

Explanation

The sample input consists of 5 test cases.

In the 2nd test case, 3 people opted for the same 1 or 2 cabins, and in order to prevent the worst case of all the 3 of them getting the ticket, we can give out at most 2 tickets.

In the 3th test case, we can give out 3 tickets and still make sure that regardless of who gets a ticket, any winner can be housed in a cabin of their choice.