

Crab Graphs



A crab is an undirected graph which has two kinds of vertices: 1 head, and K feet, and exactly K edges which join the head to each of the feet. ($1 \leq K \leq T$, where T is given)

Given an undirected graph, you have to find in it some vertex-disjoint subgraphs where each one is a crab. The goal is to select those crabs in such a way that the total number of vertices covered by them is maximized.

Note: two graphs are vertex-disjoint if they do not have any vertices in common.

Input Format

The first line of input contains a single integer C. C test-cases follow. The first line of each test-case contains three integers N, T, and M (the number of nodes, max number of feet in the crab graph, and number of edges, respectively). Each of next M lines contains two space separated values $v1_i$, $v2_i$ meaning that there is an edge between vertices $v1_i$ and $v2_i$. Note that the graph doesn't have parallel edges or loops.

Constraints

- $1 \leq C \leq 10$
- $2 \leq T \leq 100$
- $2 \leq N \leq 100$
- $0 \leq M \leq N * (N-1)/2$
- $1 \leq v1_i \leq N$
- $1 \leq v2_i \leq N$

Output Format

For each test-case, output a single integer indicating the maximum number of vertices which can be covered by vertex-disjoint sub-graphs of crab- graphs.

Sample Input

```
2
8 2 7
1 4
2 4
3 4
5 4
5 8
5 7
5 6
6 3 8
1 2
2 3
3 4
4 5
5 6
6 1
1 4
2 5
```

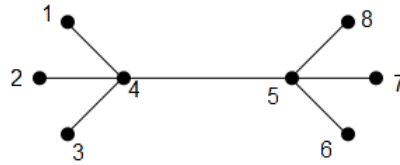
Sample Output

```
6
6
```

Explanation

Test #1: The graph for this test-case below. Because $T = 2$, each crab can have a maximum of 2 feet => each crab can cover a maximum of 3 nodes. We can cover 6 nodes of this graph with these two crabs: One of the crabs has 4 as its head and 1 and 3 as its feet, the other crab has 5 as its head and 7 and 8 as its feet. No additional crabs can be added.

The above is not a unique solution: any combination of two crabs, with one head at 4 and one head at 5, will suffice. We could have also chosen Head[4]feet[1,2] and Head[5]feet[6,7] as our two crabs.



Test #2: The graph for this test-case below. We can cover all 6 nodes using two crabs. One of the crabs has 2 as its head and 1 and 3 as its feet, the other crab has 5 as its head and 4 and 6 as its feet.

