

Question 1: Processor and Tasks

You are given 1 processor, N tasks and their dependencies in the form of M dependency pairs. A task cannot execute if any task that it is dependent on it has not executed. You have a single processor, so the tasks need to be executed sequentially. Whenever the processor is free, the processor schedules the task with the lowest index among the set of executable tasks to run next.

Can you predict the order in which the tasks would be executed by the processor (if they can even be executed)?

Input format

First line contains T, the number of test cases.

First line of every test case contains space-separated integers N and M, representing the number of tasks and number of dependency pairs respectively..

Next M lines contain 2 space-separated integers each, i and j which implies that task j is dependent on task i.

Each task is represented by an ID ranging from 0 to N-1.

Output format

If no feasible execution order exists, print "-1".

Otherwise, print the order (space-separated IDs) in which the tasks will be executed.

Constraints

$$1 \leq T \leq 100$$

$$1 \leq N \leq 10^5$$

$$1 \leq M \leq 2 \cdot N$$

$$0 \leq i, j \leq N-1$$

Sample Input

```
2
3 3
1 2
0 2
0 1
4 6
0 1
0 2
1 2
2 0
2 3
3 3
```

Sample Output

0 1 2

-1

Time Limit: 4 seconds