Problem A: Kingdom

Time Limit: 1 Sec Memory Limit: 128 MB
Submit: 387 Solved: 188
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Description

Long time ago, there was a handsome prince named Pisces, who ruled a powerful kingdom. In his kingdom, there were n cities along with m directed roads connecting them. To better govern his kingdom, Pisces had decided to draw an adjacent matrix to represent the circulation relationship among these cities. In his matrix, if there are a_{ij} roads from city i to city j, we have $A[i][j] = a_{ij}$. Please help him solve this problem.

Input

The first line contains an integer T ($1 \le T \le 10$), which denotes the number of test cases.

In each test case, the first line contains 2 integers n ($2 \le n \le 1000$) and m ($1 \le m \le 2000$), indicating the number of cities and the number of roads. And in each of the next m lines, there are 2 integers u and v ($1 \le u, v \le n$), representing that there is a directed road from city u to city v.

Output

For each test case, print the adjacent matrix.

Sample Input

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

Sample Output

```
0 1 0 1
0 0 2 0
0 0 0 1
0 1 0 0
0 1 1
0 0 0
1 1 0
```

HINT

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