Can you Reverse?

by pruthvishalcodi1

It's summer vacation and you're having a very boring time but you want to do something fun! So, you go through your DS notes and find a directed graph with N vertices and M edges. You managed to come up with an interesting question and want to solve it now. The question you came up with is "What is the minimum number of edges that need to be reversed to have at least one path from vertex 1 to vertex N ?"

Input Format

The first line contains T, the number of test cases and T test cases follow. The first line of each test case contains two space-separated integers N and M, denoting the number of vertices and the number of edges in the graph respectively. The next M lines of the test case contain two space-separated integers X and Y, denoting that there is a directed edge from vertex X to vertex Y.

Constraints

- 1 ≤ T ≤ 10
- 1 ≤ N, M ≤ 10^5
- 1 ≤ X, Y ≤ N

There can be multiple edges connecting the same pair of vertices and there can be self-loops too i.e. X = Y

Output Format

For each test case, print in a single line, the minimum number of edges that need to be reversed or -1 if there is no path from 1 to N.

Sample Input 0

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

Sample Output 0

```
2
```

Explanation 0

We can consider two paths from 1 to 7: 1-2-3-4-7 1-2-6-5-7

In the first case, we need to reverse edges (3-2) and (7-4). In the second case, we need to reverse edges (6-2), (5-6) and (7-5). So the answer is min(2, 3) = 2.

Contest ends in 7 hours

Submissions: 6
Max Score: 12

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Current Buffer (saved locally, editable) C++14

```
1  #include <cmath>
2  #include <cstdio>
3  #include <vector>
4  #include <iostream>
5  #include <algorithm>
6  using namespace std;
7
8
9  int main() {
10     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
11     return 0;
12 }
```

Line: 1 Col: 1

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