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# Course Dilemma

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## Problem Statement

Biqarboy has just enrolled at University X. After registration, he was given a list of courses to follow, all of which are mandatory. The course list shows the courses along with the prerequisites to enroll in the course.

For example, if Biqarboy wishes to take the 'Algorithms' course in any semester, he needs to complete 'Programming Fundamentals' and 'Data Structure' first. Also, assume that he can take any number of courses in one semester, if those courses are open for him (i.e. if he has completed the prerequisite courses).

Biqarboy wants to complete his courses as early as possible. So he wants your help to know how quickly he can complete all the courses at University X. Sometimes the whole programme can be so badly designed that it may not be possible to complete all the courses!

## Input Format

In the first line, you will be given an integer  $T$ , denoting the number of test cases. For each test case, you will be given two integers,  $N$  and  $R$ , representing the number of courses and the number of prerequisite relationships between the courses. The following  $R$  lines will each contain two course numbers,  $u$  and  $v$ , denoting that you need to complete course  $v$  before starting course  $u$ . The courses are numbered from 0 to  $N - 1$ .

## Constraints:

$$1 \leq T \leq 20$$

$$1 \leq N \leq 1000$$

$$0 \leq R \leq (N * (N - 1) / 2)$$

$$0 \leq u, v < N, u \neq v$$

The total number of lines in an input file is at most 100000.

## Output Format

If it is impossible to complete all the courses for Biqarboy, print **Never Ends**; otherwise, print **X semester(s)**, where **X** represents the minimum number of semesters necessary to complete the curriculum. Print the case number in all the lines. See sample input/output for exact formatting.

## Sample Input

```
2
3 2
0 1
1 2
3 3
0 1
1 2
```

2 0

## Sample Output

Case 1: 3 semester(s)  
Case 2: Never Ends

## Explanation

In the first case, Biqarboy will take course 2 in the first semester, course 1 in the second semester, and course 0 in the third semester. In the second case, the prerequisite relationships cannot be satisfied and Biqarboy is not able to finish all the courses.

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Java



```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named
           Solution. */
11     }
12 }
```

Line: 1 Col: 1

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