On some special occasions Nadia's company provide very special lunch for all employees of the company. Before the food is served all of the employees must stand in a queue in front of the food counter. The company applied a rule for standing in the queue. The rule is nobody can stand anywhere in front of his supervisor in the queue. For example if Abul is the supervisor of Babul and Abul stands in k-th position from the front of the queue, then Babul cannot stand at any position in between 1 and $k - 1$ from front of the queue.

The company has N employees and each of them has exactly one supervisor except one who doesn't have any supervisor.

You have to calculate in how many ways the queue can be created. For this problem, you can safely assume that in at least one way the queue can be created.

Input

Input starts with an integer T (T is around 700), the number of test cases.

Each test case starts with a line containing one integer N ($1 \leq N \leq 1000$). Each of the following $N - 1$ lines will contain two integers a and b ($1 \leq a, b \leq N$ and $a \neq b$), which denotes that a is the supervisor of b. For the sake of simplicity we are representing each employee by an integer number.

Output

For each input case, output a single line in the format 'Case #: w', here # is the case number and w is the number of ways to create the queue. The number of ways can be very large. You have to print the number *modulo* 1,000,000,007.

Sample Input

```
1
5
2 1
2 3
3 4
3 5
```

Sample Output

```
Case 1: 8
```