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Data Structure & Algorithms Programme (CCDSAP)   EXAM DATE **26** **AUGUST 2018**   KNOW MORE

Sereja and Salesman | Problem Code: **SEAKAM**

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Sereja has an undirected graph on **N** vertices. There are edges between all but **M** pairs of vertices.

A permutation **p** on the vertices of the graph is represented as **p[1], p[2], … , p[N]** such that for all **i**, **p[i]** is a vertex of the graph. A permutation is called connected if there is an edge between vertices **p[i]** and **p[i+1]** for all natural numbers **i** less than **N**. Sereja wants to know the number of connected permutations on the graph vertices.

Input

First line of input contains a single integer **T**, denoting the number of test cases. **T** tests follow. First line of each test case contains two integers, **N** and **M**. **M** lines follow, each containing a pair of indices of vertices, indicating that those vertices are **not** connected by an edge.

Output

For each test case, output one number — the answer for the problem modulo 10^9+7.

Constraints

- $1 \le T \le 10$
- $1 \le N \le 10^5$
- $0 \le M \le 7$

Subtasks

- **Subtask #1: 1 ≤ N ≤ 10** (25 points)
- **Subtask #2: 1 ≤ N ≤ 100** (25 points)
- **Subtask #3: 1 ≤ N ≤ 1000** (25 points)
- **Subtask #4: original** (25 points)

Example
Input:
2

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

Output:
2
0
```

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Editorial:	http://discuss.codechef.com/problems/SEAKAM
Tags:	combinatorics, dp+bitmask, jan16, medium, sereja
Date Added:	14-10-2014
Time Limit:	1 secs
Source Limit:	50000 Bytes
Languages:	C, CPP14, JAVA, PYTH, PYTH 3.5, CS2, PAS fpc, PAS gpc, RUBY, PHP, GO, NODEJS, HASK, SCALA, D, PERL, FORT, WSPC, ADA, CAML, ICK, BF, ASM, CLPS, PRLG, ICON, SCM qobi, PIKE, ST, NICE, LUA, BASH, NEM, LISP sbcl, LISP clisp, SCM guile, JS, ERL, TCL, PERL6, TEXT, CLOJ, FS

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