Problem 8: Raja Bazar

Time limit: 8 seconds

Raja Bazar in Rawalpindi boasts a labyrinthine road network that intricately weaves through the heart of the city. Navigating this bustling urban landscape requires a keen understanding of its complex web of streets, alleys, and intersections.

You are a traffic engineer working for a city's transportation department, and you're tasked with analyzing road network patterns in a complex road network. Your goal is to identify and count specific road network structures, within the road network.

A Road Network Structure is a recurring subgraph pattern that represents a specific topology of road network. Understanding these road network structures can help optimize traffic signal timings and reduce congestion.

In this problem, you are given an undirected road network consisting of road segments, and intersections. Where intersections are represented by nodes and road segments are represented by edges. Your task is to discover and count all occurrences of a particular Road Network Structure within the given road network. Multiple Road Network Structures may share road segment(s) and/or intersection(s). Two Road Network Structures are distinct when they contain at least one distinct intersection.

Input

- First line contains a pair N, M. The number of intersections in the road network, N $(1 \leq N \leq 200)$. The number of road segments in the network, M $(1 \leq M \leq (N(N-1)/2))$.
- M lines, each containing two intersection IDs u and v $(0 \leq u, v \leq N-1)$, representing an undirected road segment from intersection u to intersection v in the network and vice versa.
- Pair of integers K, P. The number of intersections in the target road structure $(1 \leq K \leq 5)$ followed by $(1 \leq P \leq (K(K-1)/2))$ the number of road segments involved in the target road structure.
- P lines, each specifying a pair of intersection IDs u and v $(0 \leq u, v \leq N-1)$, representing road segments from intersection u to intersection v and vice versa within the road network.

Output:

Output a single integer, the count of occurrences of the target structure within the provided road network.

Sample input	Sample Output
6 9 0 1 1 2 1 3 2 3 3 4 4 0 2 5 5 0 5 1 3 3 0 1 1 2 2 0	3