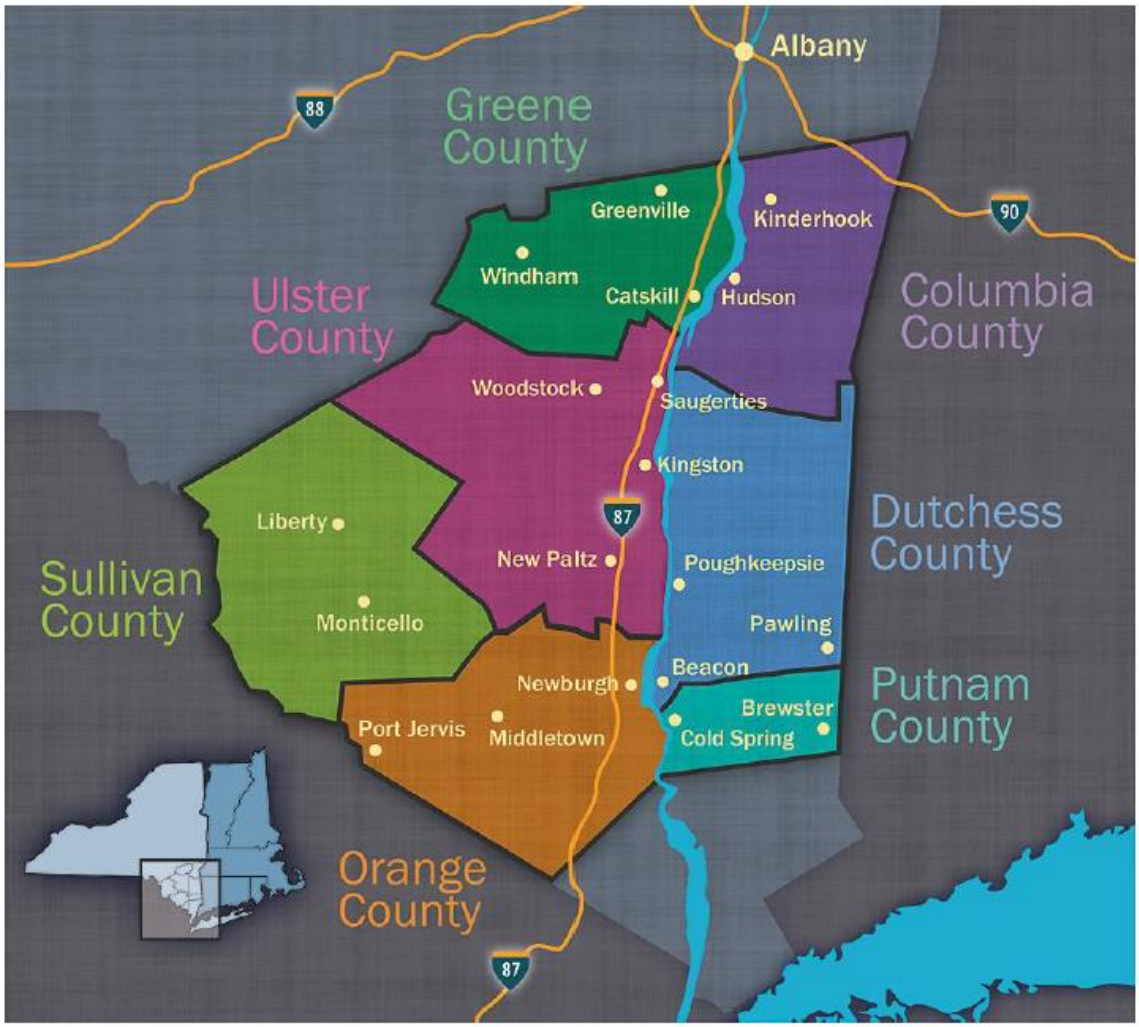
Assignment 1
Instructor: Min Chen

Hand in your homework:
The coding assignment should be submitted through Brightspace before 11:59PM on the due date.

Late Policy:
No late assignment can be accepted except:

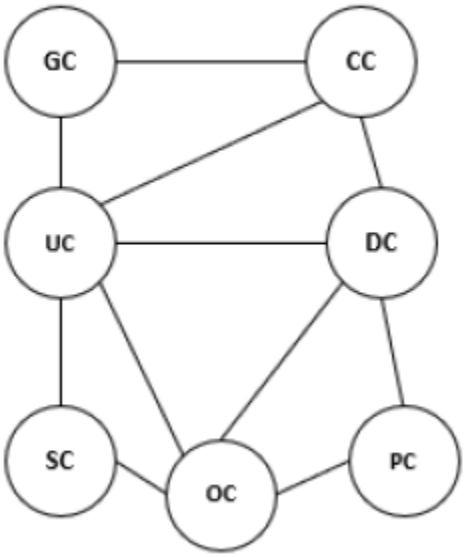
1. The student has been confined to the hospital or to their room by doctor's orders.
2. The student has participated in an activity approved by their Academic Dean.

Scenario:
You are a **package truck driver** responsible for delivering packages to **each county in the Mid-Hudson district**. To determine efficient routes, we want to **traverse the counties using Depth-First Search (DFS)** and **Breadth-First Search (BFS)**.
We will model the counties as a **graph**, where each county is a **node**, and connections (roads or delivery routes) between them are **edges**.
We will **start the traversal from Ulster County (UC)**.



If we cover it into a graph, we will see that

Greene County = GC, Columbia County = CC, Ulster County = UC, Dutchess County = DC, Sullivan County = SC, Orange County = OC and Putnam County = PC.



Tasks:

1. **Create a data structure file** named graph (e.g. graph.py or graph.java):
    - This file should define the graph structure.
    - It should allow adding nodes (counties) and edges (connections between counties).
2. **Create a separate program file** named traversal (e.g. traversal.py or traversal.java):
    - This file should import the graph from graph.py.
    - Implement both **Depth-First Search (DFS)** and **Breadth-First Search (BFS)** algorithms.
    - Start traversal from **Ulster County (UC)**.
    - Output the result of each traversal (the order in which counties are visited).
3. **Run your code and take a screenshot** of the output showing both DFS and BFS traversal orders.
4. **Submit your code and screenshot**:
    - Combine your programming files (graph.py and traversal.py) and the screenshot into **one PDF file**.
    - Submit the PDF via Brightspace.