CSCI3200 Spring 2023 LAB4 – Adjacency Matrix based Graph

Objective: the student will demonstrate their understanding on adjacency matrix-based Graph ADT. After finishing this lab, the students should:

- Confidently in implementing a graph ADT using adjacency matrix.
- Able to identify for a specific graph problem, what are the check points on the two-dimensional array.
- Confidently in operating on two-dimensional array implemented graph ADT
- Confidently in the implementation of required methods and also able to extend to more implementation

You are allowed to work with a partner in one of your remaining LABs (only one) if you have not used it. If you choose to work as team, all team members are expected to contribute to the completion of the LAB. You will receive a deducted grade if your team member complains about your contribution.

Remark: Answers identical to other students (or another team) or can be found on Internet will receive a 0 grade.

1. Download the compressed folder LAB4 from D2L. There are two ".java" files in this folder, including:
    a. Graph.java: this is the Graph class that we started in class. Your task is to implement the other required method. Illustration of each method can be found within the java file (provided within each method as comments).
    b. mainClass.java: based on your implementation, complete this class to test your methods. You are required to test each method at least once.
2. For the method you implemented in Graph.java. Put Big-O time complexity as comment similar to the methods we already implemented in class. When discuss time complexity, assume the graph is huge with n vertices.

What to Submit (one submission per team is good enough):

• Graph.java

• mainClass.java