Programming Assignment

due: April 15, 2019
No extension without explicit permission.

Develop a class Graph that implements a directed graph using adjacency lists. Vertices are given by integers in the range from 0 to *n*-1 and edges will be displayed as

Write a method that allows you to store a graph and restore a graph using a file. You get to determine the format of the file.

Write a method that prints out the adjacency matrix of a graph.

Write a method that creates a graph with *n* vertices and then allows the user to interactively insert edges by specifying the vertices numerically.

Implement breadth first search on the graph. The output should print out for each vertices the distance and the predecessor to the starting vertex.

Implement Floyd-Warshall.

Implement depth first search on the graph. The output should classify all edges as well as giving an ordered list of the vertices visited.