CS2400 Fall 2018 Project 5

Total points: 100

Due date: Wednesday, December 5, 2018

Purpose:

1. Understand graph and its representations (adjacency matrix and adjacency list)
2. Implement graph traversal algorithms (Breadth-First Traversal and Depth-First Traversal)

Task Descriptions:

Task 1: Write Java code that creates the graph below and implements an algorithm that performs a **breadth-first traversal** of the graph, beginning at the node labeled *A*. Please display nodes in order in which vertices are visited.
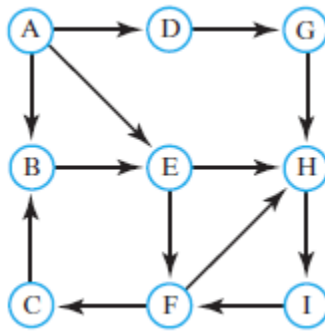
Task 2: Write Java code that creates the graph above and implements **an iterative algorithm** that performs a **depth-first traversal** of the graph, beginning at the node labeled *A*. Please display nodes in order in which vertices are visited. (Note: please use stack for your iterative algorithm, not recursive method)

You will be graded based on the quality of your program. **Please mention if Java interface and generic data type are used or not, as bonus will be considered for those who use Java interface and generic data type. Also, bonus will be considered for those who provide two versions (using adjacency matrix representation and using adjacency list)**

What to Submit?

1. Source codes for Tasks 1 and 2 (Note: properly comment your codes)
2. Readme.txt (describes what graph representation you used and how to run your code)
3. Please zip all documents as yourname_p5.zip and submit it in blackboard.