**CSC 323 Algorithm Design and Analysis, Spring 2017, Instructor: Dr. Natarajan Meghanathan**
Quiz 6 (Take Home)   Due: April 4, 2017 @ 1 PM

In this quiz, you will learn how to use the Vector and TreeMap classes of the Java util (Collections) package for programming with graphs. The focus of this quiz will be on the Breadth First Search (BFS) graph traversal algorithm. You will extend the code for Breadth First Search (posted in Blackboard) to determine the following on a graph:

(1) Classification of the edges as tree edges and cross edges
(2) The level number (distance) for each node with reference to a starting node
(3) Whether the graph is connected or not.
(4) Whether the graph is a bipartite graph or not. If the graph is bipartite, print out the two partitions.

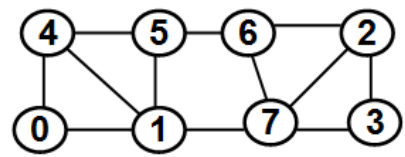Run the extended BFS code on the graph assigned to you and determine each of the above.

Graphs assigned to each student (the starting node is 0 for all students)
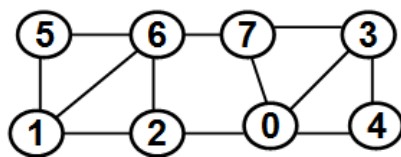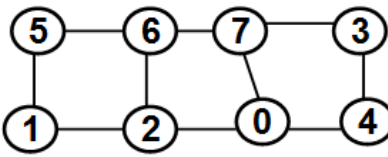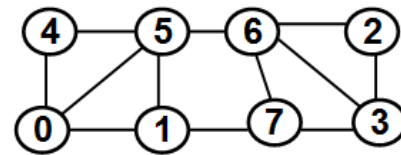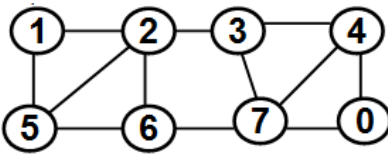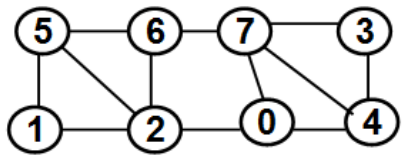

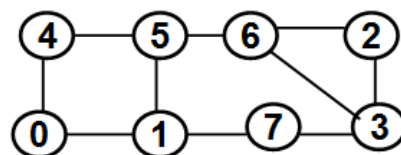Jason Bruno   Jordan Hubbard   Justin McGuffee
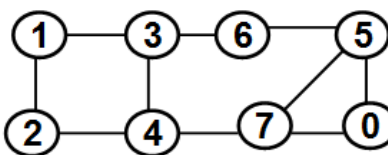
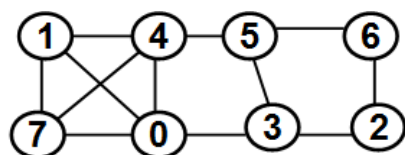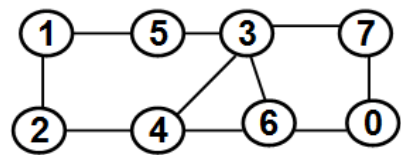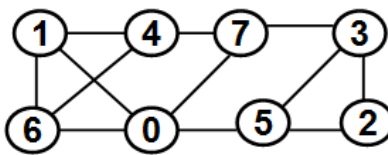Bria McCutcheon   Kayla Johnson   Jaylen Boykin

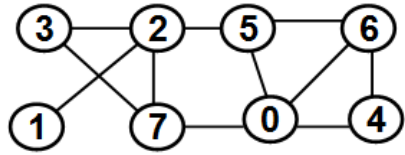Darren McGee   Kayshaunna Williams   Elbert Buchanan

Alexander Arrington   Daniel Epps   Michael Wilson

Videos to look at (in the following order; the accompanying code is provided in Blackboard, all as a zip file):
Vector Example
https://youtu.be/5xx6EgLott4

TreeMap Example 1
https://youtu.be/n2VKIrVkZUU

TreeMap Example 2
https://youtu.be/n2VKIrVkZUU

BFS Code
https://youtu.be/qGTP8DMzGsM

Submission:
(a) Record a video illustrating the extensions to the BFS code and demonstrate the execution of the extended code on the graph assigned to you as well as show the outputs. Upload the recorded video to Google Drive and email me the link.
(b) Email me (natarajan.meghanathan@jsums.edu) the following:
- Extended code as well as the screenshots of the outputs resulting from the execution on the graph assigned to you.
- Workout items (1) through (4) for the graph assigned to you and include as a report.