# CS608 Programming Assignment 11

# Basic Graph Algorithms – DFS, BFS and Dijkstra's shortest path algorithm

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This assignment has two parts: Part 11A and Part 11B. If you successfully complete both, you will receive 15 points. If you successfully complete only one (either one), you will receive 10 points.

As these topics are extensively discussed on the Web, there are plenty of Web sites with Java code for this week's assignment. You can refer to any of those, but you must mention references. In addition, your programs must adhere to specified instructions here.

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**Programming Assignment 11A: implement <u>one</u> of (1) Depth First Search or (2) Breadth First Search**

The file, **inputData11A.txt** contains adjacency matrix data for a graph with 15 nodes (call the nodes A – O). Write a Java program to read this file, and output either (1) Depth First Search or (2) Breadth First Search of the graph. Starting from A.
Output to contain the list of nodes (A – O) traversed.

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**Programming Assignment 11B: implement (1) Depth First Search, (2) Breadth First Search, and (3) Dijkstra's shortest path algorithm**

The file, **inputData11B.txt** contains adjacency matrix data for a weighted graph with 15 nodes (call the nodes A – O). Write a Java program to read this file, and output (1) Depth First Search, starting from node **A** (2) Breadth First Search of the graph, starting from **A**, and (3) Dijkstra's shortest path (both the path and the distance) from the node A to every other node in the graph.

**Output to contain:**

(1) Depth First search starting from A, (2) Breadth First Search starting from A, and
(3) Shortest path (both the path and the distance) from the node A to every other node in the graph.

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