Lab 4

Recall that a graph is a set of nodes and the edges that connect them. In a directed graph, an edge from node i to node j is distinguished from one from node j to node i. In a weighted graph, each edge has a value associated with it called the weight. The weight matrix for a graph is the set of weights from node i to node j. If an edge does not exist, the weight is considered infinite. See the example in class or recall from your previous experience.

We're going to be studying graph algorithms, so it's worth coming up to speed on how to use a weight matrix.

(1) Construct the weight matrix for the attached graph.

(2) Use the weight matrix to compute the distance between node A and G along some path (whichever one you happen to choose.)

(3) Use the weight matrix to compute an array holding the distance between node A and all other nodes. Again, choose any path.

(4) Can you figure out how to compute the shortest path from node A to G? (Using any solution technique.)