

You will submit your solution to this assignment to the Curator System (as HW04). Your solution must be either a plain text file (e.g., NotePad) or a typed MS Word document; submissions in other formats will not be graded.

Credit will only be given if you show relevant work.

- [50 points] Apply Dijkstra's SSAD algorithm to find the shortest distance from vertex 0 to every other vertex in the graph shown in Figure 1 below. For uniformity, when choosing which node to visit next, take them in increasing numeric order. You must show supporting work in the form of a table; see the course website for an acceptable format. You do not need to list the paths in your answer, just the minimum distances.

**Note:** the example in the course notes shows an undirected graph, but the algorithm applies to directed graphs as well, and in the obvious manner.

- [50 points] Using a depth-first traversal, find a topological ordering of the nodes in the graph shown in Figure 2 below. For uniformity, when choosing which node to visit next, take them in increasing numeric order. You must show supporting work; see the course website for an acceptable format.

