Assignment #9

Due Date: Saturday, November 21 at 11:59pm

Submit: eLearning

Late Policy: -10 points per hour late

Instructions: This is an individual assignment. Answers should be your own work.

Chapter 9

100 points total

10 points
1. Find a topological sort for the graph in file hw9_top_sort.jpg.

10 points
2. For the graph in the file hw9_graph_letters.jpg, give a path of a breadth-first search,
   starting from vertex I.

20 points
3. Find the single-source shortest path from Home to all of the other locations in the graph in
   file hw9_points_of_interest.jpg. Show each step as in slides 57 to 64.

20 points
4. Find the maximum flow for from JCT A to JCT G for the graph in file hw9_dag_junctions.jpg.
   Show each step as in slides 84 to 85.

10 points
5. Find the minimum spanning tree using Prim's algorithm for the graph in file hw9_points_of_interest.jpg. Show each step as in slide 89.

10 points
6. Repeat #5 using Kruskal's algorithm. Show each step as in slide 100.

10 points
7. Produce a depth-first spanning tree for the graph in file hw9_graph_dfs.jpg.
   Show as in slide 124, labeling Num(v) and Low(v) for each vertex and identifying
   all articulation points.

10 points
8. For the graph in the file hw9_graph_letters.jpg, does it have an Euler Path or Euler Circuit?
   If it does, give the sequence of letters for it.

Submit to eLearning:
    hw9.doc (.doc can be .txt, .jpg, etc.)