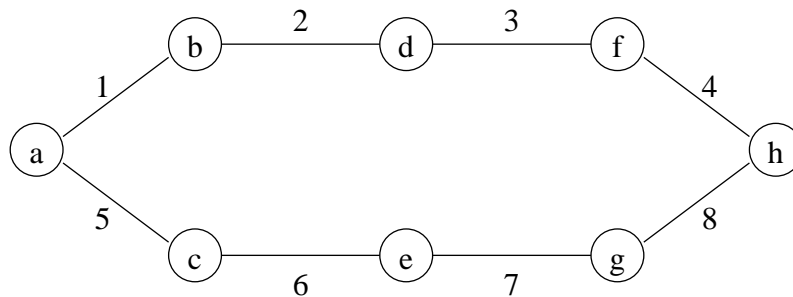


Homework 8

CS 3233 – Fall 2003
Tom Bylander, Instructor

assigned November 13, 2003
due November 20, 2003

1. (10 pts.) Do Exercise 7.3.4.
2. (10 pts.) Do Exercise 7.3.8.
3. (10 pts.) State the in-degree and out-degree of each vertex in the graph of Exercises 8.3.4.
4. (10 pts.) What is the minimum number of edges in a connected simple graph with n vertices?
5. (10 pts.) What is the minimum number of edges in a strongly connected directed graph with n vertices?
6. (10 pts.) What is the maximum number of edges in an unconnected simple graph with n vertices?
7. (10 pts.) What is the maximum number of edges in a directed graph that has n vertices and is not strongly connected?
8. (10 pts.) For the weighted graph below, in what order will Dijkstra's algorithm visit the vertices when finding the shortest path from a to h ? Not all vertices are visited.



9. (10 pts.) For the weighted graph above, in what order will Dijkstra's algorithm visit the vertices when finding the shortest path from e to h ? Not all vertices are visited.
10. (10 pts.) For the weighted graph below, what values are derived for $L(e)$ by Dijkstra's algorithm when finding the shortest path from a to e ?

