CprE 489 Assignment 9

Distributed: October 28, 1997. **Due**: November 6, 1997.

Reading:
Chapter 5 of Tanenbaum.

Exercises:

1. exercise 5.5
2. exercise 5.8
3. exercise 5.13
4. exercise 5.14
5. exercise 5.17
6. exercise 5.20
7. exercise 5.29
8. exercise 5.36

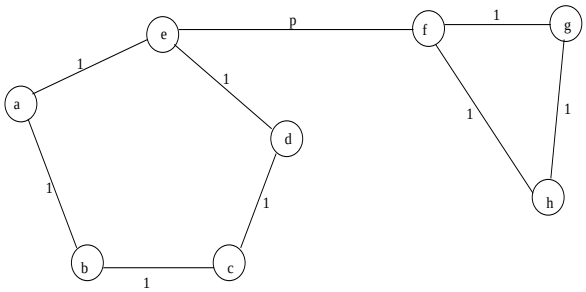

Figure 1: Figure for Problem 9

9. Consider the graph shown above consisting of 8 nodes.

   a) The weights are given as 1 for all edges except for the edge connecting node e and f, where it is p. Illustrate the count to infinity problem by doing the routing tables for nodes a,b,c,d,e with respect to node g right after node f has gone down. Do 10 entries or so to illustrate the problem.

   b)Suppose we fixed it by letting each delay entry in the routing tables contain the delay as well as information about what node the delay is based on. (ex. node a's delay to node g is p+2, and is based on using node e). This information could be given as a tuple {p+2,e}. In the modified algorithm, a node will then at each exchange discard any tuples, where the delay given is based on using itself before updating it's own tables. (logically it is bad idea for a node to use a path that runs back to itself.) Given the modified algorithm, repeat part a.