CSE 3302 Assignment 6
Due: 6 May 2010, 11am

Print out a hard copy of your answers, including code, and submit in class on the due date, or email them to me before the deadline. This is a hard deadline—extensions will not be granted. Type or write neatly.

If you email your answers, be sure to include your name in the document so that when we print it out your name appears.

1 Concurrency

[10 pts] Given an undirected graph \( G = (V, E) \) A spanning tree of \( G \) is a connected acyclic subgraph \( T = (V', E') \) of \( G \) containing all vertices in \( V \) (\( V = V' \)) and a subset of edges of \( E \) (\( E' \subseteq E \)). Sequential code for computing a spanning tree is at:

http://ranger.uta.edu/~nystrom/courses/3302/hw6/DFS.java

This code should compile out-of-the-box with javac. Modify DFS.java to make the computation of the spanning tree concurrent. The computeDFS method should spawn a new thread or activity when recursing on a neighbor. All spawned threads should be joined in the dfs function.

Insert synchronized statements in the appropriate place(s) to ensure the parent of a node is updated safely.