CSE6331 Homework 7
Due Tuesday, October 30

1. Describe an efficient algorithm that, given an undirected graph G, determines a spanning tree of G whose largest edge weight is minimum over all spanning trees of G.

2. Page 511, 24-1 (1st edition), 575, 23-1(b,c,d) (2nd edition), Page 638, 23-1 (b,c,d) (3rd edition).

3. Professor Dey has written a program that he claims implements Dijkstra's algorithm. The program produces $v.p$ (priority) and $v.\pi$ (parent field) for each vertex $v \in V$. Give an $O(|V| + |E|)$-time algorithm to check the output of the program. It should determine whether the d and π attributes match those of some shortest-paths tree. You may assume that all edge weights are nonnegative.