CS2223
HW#4

DUE: Monday , November 23

1. (6 points) Prove or give a counterexample to the following

CONJECTURE: The minimum spanning tree algorithm works correctly even if the lengths can be negative. That is, the spanning tree constructed by Kruskal's algorithm is a least cost spanning tree, even if $L: A \to R$ can associate negative lengths with edges.

2. (6 points) Prove or give a counterexample to the following

CONJECTURE: The single source shortest path algorithm works correctly even if the lengths can be negative. That is, the shortest path constructed by Dijkstra's algorithm is a shortest path, even if $L: A \to R$ can associate negative lengths with edges.

3. (10 points) Do **Problem 6.21** on page 216 of our text.