MAT 375-1

HOMEWORK ASG. #6 HAND IN TUESDAY, OCT. 18

1. Here is an unsorted list of fractions:

2	4	5	5	3	6	7	7
		—	—	—			
3	7	9	8	5	11	13	12

Show the steps necessary to sort the list (in increasing order, left to right) by:

- a) Bubble sort
- b) Merge sort
- c) Heap sort

Use the test to compare the size of fractions (when all variables are positive): $\frac{a}{b} < \frac{c}{d}$ iff ad < bc

2. Use Dijkstra's Algorithm to find the shortest path from a to z in this network. Include in your solution the correct labeling of each vertex in the shortest path, the order of vertices in the shortest path, and the length of the shortest path.



- 3. Find a minimal spanning tree for the network in Problem #2 above by using:
 - a) Kruskal's Algorithm
 - b) Prim's Algorithm