WRIGHT STATE UNIVERSITY
Department of Computer Science and Engineering
CS7200-02: Algorithm Design and Analysis
Fall 2015 Assignment 2 (100 pts)
Due: December 7, 2015 by 12:00pm

(25 pts)

1. Do Problem 1 in Chapter 3 on page 107 of the Kleinberg and Tardos text. Look at solved exercise 1 on page 104 as an example.

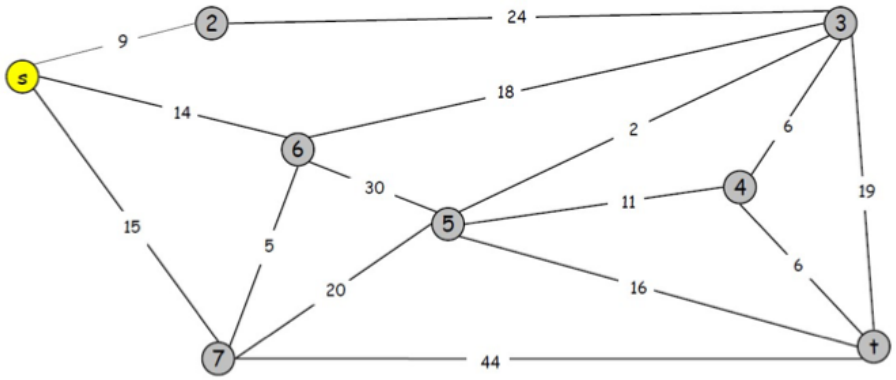
(25 pts)

2. Show the diagram of divide-and-conquer MergeSort algorithm on the numbers below.

31	22	13	4	12	1	21	3	36

(25 pts)

3. Given the undirected graph below, find the minimum spanning tree and its weight using Prim's minimum spanning tree algorithm. Show which edges are added in each step and final minimum spanning tree.



(25 pts)

4. Do Problem 22 in Chapter 4 on page 200 of the Kleinberg and Tardos text. Consider a graph on four nodes v1, v2, v3, v4 in which there are edges (v1, v2), (v2, v3), (v3, v4), (v4, v1), of cost 2 each, and an edge (v1, v3) of cost 1.

TURNIN: Save your assignment as one pdf file, name it using "lastname-firstname" format and submit to DropBox on Pilot by the deadline.