MA/CSSE 473 – Design and Analysis of Algorithms

Homework 15 (43 points total)

These are to be turned in as hard copy. You can write solutions out by hand, or write them on your computer and print them. If there are multiple pages, please staple them together.

When a problem is given by number, it is from the textbook. 1.1.2 means "problem 2 from section 1.1" .

Problems to write up and turn in:

1. (5) 9.1.8   (Prim prior connectivity check?).
2. (10) 9.1.11   (change value of an item in a min-heap)
3. (8) 9.2.2   (Kruskal TF questions) Briefly explain your answers
4. (5) 9.2.8   (efficiency of *find* in union-by-size)
5. (15) 8.3.10b   (how many different parenthesizations?)

Extra credit problem (50 points). 8.3.10c. Actually implement and test your algorithm, turn in something in hard-copy that convinces me it works.

Don't forget the Boyer-Moore demonstration implementation problem
Described in Day 28 PowerPoint Slides