CSE191, Fall 2013 Assignment 9 (the last) Due Fri. 12/6

Reading: For the last week of class, please read Chapter 10 up through Section 10.5, and Chapter 11, section 11.1, *skim* the example-laden 11.2, and read 11.3. Note that Chapter 10 begins with examples like my diagram with one-hop air travel connections between cities, which I introduced in the context of matrices in section 2.6—this was exactly an "adjacency matrix" as the text first defines on page 669 of section 10.3. For other connection to previously-covered material on relations, please also read Chapter 9, sections 9.1 and 9.3 (skip 9.2),

The **Final Exam** is scheduled for **Wednesday, Dec. 11**, **11:45am–2:45pm** *in the lecture room*, **121 Cooke Hall**. This is not ideal, the first time I've ever had a room that did not provide two-apart seating. The rules will allow *unlimited notes*, but more as co-operation than stricture, I would like to ask that bulky items be limited to one binder and one "wad" (of graded assignments and other notes), and that backpacks not be brought or at least not filling the aisles. Laptop computers are forbidden. Handhelds and calculators are OK, though the exam will not give any material advantage to them. Internet access via handhelds to the text is a "grey area," but I can stipulate that any other Internet access is forbidden. A sample final exam will be given next week. The only topic it has that was not covered is *solving* recurrence relations, which is in section 8.2 of this edition—I did not get to cover even the depth-1 case of solving via the "master theorem" on page 832.

(1) Rosen, page 397 in section 6.1, exercise 32, (c,d,g,h) only. (12 pts.)

(2) Rosen, page 397 in section 6.1, exercise 46, all parts. (9 pts.)

(3) Rosen, page 414 in section 6.3, exercise 26, all parts. You must show the binomial coefficients used. (9 pts.)

(4) Rosen, page 414 in section 6.3, exercise 32, all parts. Again show the permutations and combinations used. (3+3+6+6 = 18 pts.)

(5) Rosen, page 422 in section 6.4, exercise 28, both parts. (9+9 = 18 pts.)

(6) Rosen, page 665 in section 10.2, exercise 18. A bit of a challenge. Use induction on the number of edges in the graph, together with a case-analysis about the two vertices on an edge you remove in doing the induction. Or you can use the pigeonhole principle together with a little more reasoning. (18 pts.)

(7) Rosen, page 676 in section 10.3, exercises 26 and 28. (6+6 = 12 pts., for 96 total on the set)