

# MA/CSSE 473 – Design and Analysis of Algorithms

## Homework 16 (25 points total)

**updated for summer 2015**

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

### **Problems for enlightenment/practice/review (not to turn in, but you should think about them):**

How many of them you need to do serious work on depends on you and your background. I do not want to make everyone do one of them for the sake of the (possibly) few who need it. You can hopefully figure out which ones you need to do.

12.1.3 (n-queens implementation)

12.1.11 [12.1.10] (puzzle pegs)

### **Problems to write up and turn in:**

1. ( 5) 12.1.5 [12.1.4] (Hamiltonian Circuit) Show the state space.
2. ( 5) 12.2.1 (data structure for best-first branch-and-bound)
3. ( 5) 12.2.5 (use branch-and-bound to solve instance of knapsack problem)
4. (10) 12.3.1 (nearest-neighbor algorithm example) (4, 6)