CS 5800: Algorithms	V. Pavlu, K.Lieberherr
	Due: Feb. 3, 2014
Homework Module 4	

1 Submission Rules

http://www.ccs.neu.edu/home/lieber/courses/algorithms/
cs5800/sp14/homeworks/submission-rules.pdf

2 Problems

1. (5 pts) Exercise 7.2-2, explain why.

2. (5 pts) Exercise 7.2-3.

3. (15 pts) Exercise 7.4-2.

4. (5 pts) Exercise 8.2-4.

5. (20 pts) Exercise 9.1-1.

6. (20 pts) Exercise 9.3-8.

7. (15 pts) Exercise 9.3-9.

8. (20 points) Formulating Claims: One-dimensional Postoffice Location Problem (0-d PLP): See problem CLRS 9-2.

   Your employer wishes to find a fast algorithm for solving the one-dimensional post office location problem. To get a precise formulation of the problem, the employer wants to get a logical formulation of the 0-d PLP.

   Provide such a formulation. Your formulation will be given to a crowdsourcing company, like topcoder.com, to have a competition for finding the fastest algorithm for 0-d PLP.

   Discuss your logical formula with your debating team, agree on a common formula (a claim) and test it by doing a debate (3 semantic games per team of 3). Turn in the links to your Piazza debates.

   Turn in your original formula as well as the team formula.

9. (40 points) HSR exploration. See

   http://www.ccs.neu.edu/home/lieber/courses/algorithms/
   cs5800/sp14/labs/HSR-problem-CS5800-1.doc

Organize a debate HSR(9,2,q) for suitable values of q. Find HSRnk-min(9,2). a) Turn in the number HSRnk-min(9,2) and links to your debates. b) Find a tight asymptotic bound for HSRnk-min(n,3). c) optional: Some of you might already write a perfect avatar for MinHSR(). If you do, turn it in and document your winning strategy. Or you might have a perfect avatar for MinHSR(n,2,q) or MinHSR(n,3,q). If you do, turn it in.