CIS 621: Algorithms and Complexity
Winter 2014

Take Home Final Exam

due Wednesday, March 19, 2014

Turn in five problems as described below. You have some choice. At this point, do not expect that doing more will result in extra credit. If you choose to do more, please indicate which five you wish to have graded.

**greedy**  Do one of questions 1 or 2. Describe an exchange property.

**dynprog**  Do two of questions 3 through 6.

- Describe subproblem and recurrence.
- Describe desired output in terms of subproblem (e.g. $\max\{\OPT_A(n), \OPT_B(n)\}$).
- Typeset recurrence *very* nicely.
- Do not give code.
- Note the time and space that would be used if you did have code.

**npcomp**  Do two of the problems given by question 7.

1. exercise 6 of chapter 4, p 191
2. exercise 7 of chapter 4, pp 191-2
3. exercise 8 of chapter 6, pp 319-20
4. exercise 13 of chapter 6, p 324
5. exercise 21 of chapter 6, p 330
6. exercise 24 of chapter 6, p 331-2
7. Any of exercises 6-11 of chapter 8, pp 507-10