

# CS 3100 – Algorithms

Assignment 2  
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Due: 18-FEB-2008 in class.

**Problem 1.** Show an example of perfect hashing with at least 10 integers. **(5 Points)**

**Problem 2.** Repeat the proof of the claim that searching in a hash table with chaining has expected  $\alpha$  cost with the modification that inserts happen at the end of the list. What will be the cost of an insert operation with this modification? **(5 Points)**

**Problem 3.** For the interval scheduling problem think of the following strategy. Select the last job to start that is compatible with all previously selected jobs. Answer the following questions.

- Show an example of this strategy on a set of about 5 jobs.
- Show that this strategy would lead to an optimal solution.

**(6 Points)**

**Problem 4.** Solve Problem 11-2 (page 150) in the second edition of the CLRS book. **(9 Points)**