Homework Assignment 6

This assignment is due by Thursday April 22 (in class). Assignments should be handed in before the class begins.

Problem 1: Solve exercises 11.2-2 (page 261), 11.3-5 (page 269), 17.2-1 (page 458), 17.4-2 (page 471), and 21.2-1 (page 567) in the textbook.

For 11.3-5, consider first any hash function $h$. What is the minimum number of key pairs mapped to the same bin by $h$? (Consider what configuration will minimize the number of pairs mapped to the same bin.) This quantity can help you derive the bound.

Problem 2: Use the accounting method to analyze the implementation of disjoint sets using lists with the weighted union heuristic. You have to decide on the amortized cost of each operation and show that each operation can be performed using this cost plus unused cost reserved from previous operations.