CS140: Algorithms

Fall 2001

Assignment 4

This assignment is due at the start of class on Monday, Sept. 24. You may collaborate in small groups with your classmates to complete this assignment but you should reference your collaborators. You also must thoroughly understand any solutions you submit and must do your own write-up of those solutions. You may not refer to solutions to assignments given in previous semesters of CS140. This assignment is worth 100 points (50 points if handwritten).

1. Problem 14.3-3 of the text. Draw the tree after each insertion.
2. Read the section on deletion in Red-Black trees then do problem 14.4-2 of the text. Draw the tree after each deletion.
3. Repeat the above problems for the treap data structure assuming the sequence of random numbers is $3, 17, 25, 8, 1, 14, 21, 30, 5, 17, \ldots$.