PHYS 483 Problem Set 8

Date: Thursday, May 22^{th}, 2003
Due date: Thursday, May 29^{th}, 2003

Important: There is no lecture on May 29^{th}. The problem set should be submitted to the assistant Evin Gültepe on this date. The final deadline for submitting all unsubmitted homeworks is Friday, May 30^{th}, 2003, until midnight, or the last time you can find Evin in the evening, whichever happens first.

- **Problem 1** (30 points) *Introduction to Algorithms, page 267, exercise 14.2-2*
  Write pseudocode for RIGHT-ROTATE.
- **Problem 2** (35 points) *Introduction to Algorithms, page 272, exercise 14.3-3*
  Show the red-black trees that result after successively inserting the keys 41, 38, 31, 12, 19, 8 into an initially empty red-black tree.
- **Problem 3** (35 points) *Introduction to Algorithms, page 277, exercise 14.4-3*
  In Exercise 14.3-3 *(Problem 2)*, you found the red-black tree that results from successively inserting the keys 41, 38, 31, 12, 19, 8 into an initally empty tree. Now show the red-black trees that result from the successive deletion of the keys in order 8, 12, 19, 31, 38, 41.