CSE 521: The Design and Analysis of Algorithms
Assignment #5
May 21, 1997
due: Wednesday, May 28

1. Exercise 15.1-5 on page 286.

2. Exercise 15.2-3 on page 289.

3. (a) Exercise 15.2-2 on page 289.

   (b)-(e) Problem 14-2, parts (b)-(e), on page 278.

   I have purposely substituted Exercise 15.2-2 for part (a) of Problem 14-2, since we did not cover the details of RB-Delete.

4. Exercise 15.3-7 on page 295. The rectangles include their boundaries, and "overlap" means "have a nonempty intersection", as usual. Justify the running time of your algorithm.

5. Exercise 20.2-10 on page 417.

6. Problem 20-2 on page 418. Include a careful explanation of how you implement the test in line 9, without the necessity of a separate Union-Find data structure. (Hint: augment the binomial heap nodes with an additional field.)