INF 4130 Exercise set 4, 2014

Exercise 1

Solve exercise 6.19 in Mark Allen Weiss *Algorithms and Datastructures in Java* (the INF 2220 book).

Exercise 2

Solve exercise 6.25 in MAW.

Exercise 3

Solve exercise 6.30 in MAW.

Exercise 4

Write a non-recursive implementation of `merge()` for leftist heaps.

Exercise 5

Professor Pinocchio claims that the height of an N-node Fibonacci heap is $O(\log N)$. Prove the professor wrong by showing that for every positive integer N, there is a sequence of Fibonacci heap operations constructing a heap that is one long chain of N nodes.

Try using the applet on

http://www.cs.yorku.ca/~aaw/Jason/FibonacciHeapAnimation.html

to construct this chain, and to get a feel for Fibonacci heaps.

[end]