Review of Exam 2 of CS 2720: Data Structures

1. Stack (P232 textbook; note)
2. implemented by list
3. implemented by array
4. application: parentheses match, evaluate expression
5. queue (P232 textbook; note)
6. implemented by list
7. implemented by an array
8. application: bank simulation; width-first traversal of a tree
9. doubly linked list (note; homework 6)
10. add a node
11. remove a node
12. tree (P246 textbook; note)
13. binary tree

(a1) traversal of binary tree: pre-, in-, post-order, width-first

(a2) traversal using recursion and non-recursion

(a3) construct a binary tree from two of pre-, in-, and post-order traversal

1. binary search tree (P286 textbook)

(b1) query an element is in this binary search tree or not

(b1) predecessor/successor

(b2) insertion/deletion of a node

1. AVL tree (see notes)
2. Expression tree (note or http://www.brpreiss.com/books/opus5/html/page264.html)

(d1) modified in-order traversal

(d2) post-order traversal and evaluation of the postfix expression

1. Heap (P151 textbook)
2. construct a heap
3. use a heap to sort
4. priority queue (P162 textbook)
5. quick sort (P170 textbook)
6. lower bounds for sorting (P191 textbook)

Topics 6-8 will be covered in next week.