

# CIS\*2520 Data Structures

Fall 2014

## Assignment 3 Guidelines

Assignment 3 is due on Monday morning, Nov 3, 2014.

Write a makefile that can be used to generate two executables, same as the one for Assignment 2. The information in *readme* file is the same as before. Other requirements are also the same.

The program for the first question should take input from the command line, same as the second question in Assignment 2. That is, the entire expression should be in a character string without spaces in it. You will need to write a very simple parser to process the input string. To make the parsing easy, in a string we only include floating numbers in the form of Y.YY, like 5.12, and variables of the form of xX, like x2. When parsing the string, you may start with the outer most pair of parentheses, identify the operator of it, create the root node for the operator, and then recursively handle the two inner pairs of parentheses.

The 2D array in the second question can be considered as an extension of the 1D array for representing heaps, which we discussed in classroom.