COMP 5113 Programming Languages
Fall 2015
Homework 1

The first homework includes:

1. Using C/C++, write a function to validate pairing of parentheses, brackets, and braces. To test the function, in $main()$ function, input a string and pass it as the parameter to the function. Note that the string may have other characters. Spaces are used as delimiters. For instance, "[hello (world)]" and "{[hello world] ()}" are valid, but "(]", "([)]" and "hello }{ word" are not.

2. Using C/C++, define an integer array (size is greater than 20) and a target number (e.g. 120), assign the array with random numbers in (0, 100), then define a function to find all unique number pairs of the array such that each pair of the numbers adds up to the target number. Note that besides output the numbers of each pair, you are also required to print the original index information of the two numbers. For example, given array A = {5, 3, 4, 2, 6, 7}, target = 9, the number pairs are (5, 4), (3, 6), and (2, 7). Their index info is (0, 2), (1, 4), and (3, 5).

3. Chapter 3, ex. 6, 18, 19.

Turn in both the softcopy and hardcopy of your documents. If you have more than one file, create a folder and put all files in, including subfolders. Your **name**, **your ID number** and **homework number** should be written on the upper right-hand corner of the top sheet of the hardcopy.

Date Due: Monday, Sept. 21, 2015