CS 240: Data Structure
Problem Set 4

Due: 04/02/2018

Instructions:
Please follow the instruction given at each problem for submission. The deadline of each assignment is 11:59 pm on the due date, unless otherwise specified. It is important that your code/solution is straight forward, not cumbersome. At the beginning of each cpp file, you must include the following:
1. Description: description of the program (later we will elaborate this more, but for now, just describe what the program does)
2. Author: the person who writes this program
3. Date: the very last date/time the program is modified

First Name:

Last Name:

Score: /90

Problem 1 LIST: exercise in chapter 6

A limited number of tickets for the NBA champoionship go on sale tomorrow and ticket orders are to be filled in the order in which they are received. Write a program that box-office cashier can use to enter the names and addresses of the person ordering tickets together with the number of tickets requirested and store this information in a list. The program should then produce a sequence of mailing labels (names, addresses, and number of tickets) for orders that can be filled. [Hint: many ways to implement this, but you can try a list (array) of new data type that contains the string name, string address and int tickets; for testing purpose, you can test with, let say only 10 tickets sale for this program; dynamic allocation is preferred).

Problem 2 STACK: ex. 2 in chapter 7

Use the stack data structure to read a string one characters at the time, and determines whether the string contrains balanced paretheses, that is, for each left parenthesis (if there is any) there is exactly one matching right parenthesis **later** in the string.

Problem 3   Simple Algorithm Design: ex 3 in chapter 7

In previous problem, one can solve without using the stack structure. In fact, a simple integer variables can be used. Describe how and write a program that uses your approach to solve the problem.