C201 Homework 6

Problem 1. This exercise is based on homework 5. Two types of struct have been defined for you. They are order and customer. The relationship between them can be found by reading the code provided for you. If you have any questions, please ask the instructor.

The main program (order_application.cpp) and the header file (order.h) have been written for you. Your task is to complete one function in order.cpp.

- `void remove(order * & head, double limit)`
  - remove all the nodes from the linked list that have order cost greater than or equal to limit

The draft of the program is at
http://www.cs.iusb.edu/~yul/C201/source/hw6/order_application.cpp;
http://www.cs.iusb.edu/~yul/C201/source/hw6/order.h;
http://www.cs.iusb.edu/~yul/C201/source/hw6/order.cpp;

The executable is at

Submission: Print the source code of order.cpp and bring it to class

Problem 2. Write a program that manages student score. Your program should contain the definition of node of a linked list, a main function, a function to insert a node to the head of the linked list, a function to display student records, and a function to calculate the average score. Details about this program is explained below

- The node should contain data fields to represent the following student information: student ID (integer), first name, last name, and score (double and in the range of 0 to 100).
- The main() function should create the head of the linked listed and ask the user to make the following selections:
  - a) Enter a record
  - b) Show records
  - c) Show average score
  - d) Terminate the program
- If Option (a) is selected, the program should ask the user to enter the following information: ID, first name, last name, and score. The program should then create a node about the student and insert it to the head of the linked list through calling insert_to_head() function.
- If Option (b) is selected, the program should call show_record() function to display all student records.
- If Option (c) is selected, the program should call average() function and display the average score of all students.
- If Option (d) is selected, the program should terminate.
- You should code this program in a way so that it can continue to display the options for the user until the user choose Option (d)
- The insert_to_head() function should insert the new node to the head of the linked list
- The `show_record()` function should show all the nodes in the linked list.
- The `average()` function should return the average score of the students in the list. If the list is empty, return 0.

**The executable of the program is at** [http://www.cs.iusb.edu/C201/source/hw6/problem2.ex](http://www.cs.iusb.edu/C201/source/hw6/problem2.ex)

**Submission:** Print the source code and bring it to class