CSCI 2170: Closed Lab on Sorted Linked List

In this lab, you will implement part of a sorted linked list class. This will serve as the starting point for the sorted list class implementation needed in OLA5.

First, copy the related files into your CLA directory with:

```
ranger$  cp –r  $PUB/sortedlist   .          ← don't forget the trailing period
```

The "-r" option allows you to copy a directory into your account. You should have a new directory named "sortedlist". The directory contains the following files:

- type.h -- definition of a struct type for complex number
- type.cpp – implementation of the struct type
- List.h -- sorted list class header file
- List.cpp – sorted list class implementation file
- main.cc -- the client program
- data -- a data file containing 9 complex numbers

The main program reads the complex numbers from the data file one by one til the end of the file is reached. For each complex number read, it inserts the number into a sorted list. After all the numbers are read and inserted. The program prints out the complex numbers in the list using the overloaded insertion (<<) operator.

The parts that you need to work on in this lab include:

1. Complete the implementation of the overloaded operators in **type.cpp** for the complex number structs
2. Complete the implementation of the following functions in **List.cpp** file:
    a. Destructor
    b. ListInsert operator
    c. Overloaded << operator

Compile the program with the following command:

```
ranger$   aCC type.cpp  List.cpp  main.cc
```

Follow the steps below to generate a script log file:

```
ranger$ script log
ranger$ pr –n –t –e4 type.h
ranger$ pr –n –t –e4 type.cpp
ranger$ pr –n –t –e4 type.h
ranger$ pr –n –t –e4 List.cpp
ranger$ pr –n –t –e4 main.cc
ranger$ aCC type.cpp List.cpp main.cc
ranger$ a.out
ranger$ exit
ranger$ lph  log
```

Turn in the log printout to your lab assistant.