CS 12 Assignment 5
Due Tuesday, May 27

This assignment uses your linked list class of assignment 4 and illustrates function and operator overloading.

Add the following functions to your list class:

- Overload the search function with the following changes:
  - Write a new search function that is based on both the title and author. This function should take two parameters, the title and author, and return a pointer to the first book node that matches both. NULL is returned if no such book is found. The main program should then print out whether the book was found or not. If found, print the book's title, author, and number of pages.
  - Write a new search function that takes one integer parameter, the minimum number of pages. This function should return a node to the first book whose number of pages is equal to or greater than the specified number of pages. If no book is found, NULL is returned. The main program should print whether a book that met this qualification was found and if so should print the book's title, author, and number of pages.
- Give the user the option to search for all books whose number of pages is greater than or equal to some number of pages. So far you can just find the **first** book that meets this qualification, this new function will find **all** books with this characteristic. This function should take one parameter, the minimum number of pages and does not return anything. In this function you should iterate through the list searching for books that are equal or greater in length than the number of pages specified. Each time one is found, print the book's title, author, and number of pages. You must use your search function written above.
- Overload the subscript operator ([]) for the list class. This would allow you to index into your list like an array.
- Overload the insertion operator (<<) for the list class. This would allow you to print out a list with cout rather than your print function, for example, you could then perform the following command to print your list:

```
list booklist;
cout << booklist;
```

You must do this assignment using Unix and must have your program separated into 3 files and must have a makefile.

Be sure to follow directions on what parameters the functions take and what type the function returns. Also, pay attention to what the function is supposed to do. For example, in the search functions, it says that it should search and return. The printing should take place in the main program not the search function.

EXTRA CREDIT Overload the equal operator for the node class. Combining this with the overloaded subscript operator would allow you to perform the following command:

```
list booklist;
// assume some books are entered here
booklist[4] = booklist[1];
```