

## COSC 201 – Lab #2

What to do with all these books?

Purpose: Implement a basic inheritance program.

Tasks:

- 1.) Start a new Java Project, called Library Project.
- 2.) Add a new class called Book. A book consists of an author, title, and ISBN number (all of which can never change once the book is created). Create all appropriate constructors and toString.
- 3.) Add a child class of Book called LibraryBook. A library book is a book that also contains a due date and the current holder of the book, which is null if the book is not currently checked out.
- 4.) Create a testing class called Library that will contain your main method and has functionality to support the following operations:
  - a. Add a library book to the library (an ArrayList of Books). Book information will be provided by the user.
  - b. Check out a library book by specifying its ISBN number, new holder, and the due date. ISBN number will be provided by the user and informative error messages should be included.
  - c. Determine the current holder of a library book given its ISBN number. ISBN number will be provided by the user and informative error messages should be included.
  - d. Print all the books in the Library including holder and due dates when appropriate.

- 5.) Your main method should allow for user input and selection of any of the methods noted in 4. Your main method should continue to loop until a “quit” option is chosen by the user. I use 0 to denote the option for quit, but as long as your output is clear on what options are valid, whatever you choose is fine.
- 6.) Turn in your code (three total .java files) via Blackboard by 11:59pm Monday. You may work in pairs for this lab. See next page for grading expectations

Grading expectations: We will be testing your methods using your main method, so user input availability is important! Possible deductions:

- \* Missing a class as specified (you should have 3 total classes)
- \* Missing functionality, including error checking as specified
- \* Not having the correct inheritance structure
- \* Lack of comments – comment blocks at the top of every file, method comments
- \* Missing main method
- \* Main method does not loop or provide a mechanism for user input
- \* Failure to turn in the correct file/code does not compile
- \* Not using an ArrayList of Books within the Library class