LAB 211 Assignment

Type:	**Long Assignment**
Code:	**J1.L.P0008**
LOC:	**500**
Slot(s):	**N/A**

Title

HKT Book Store Management

Background

You were asked to build a book management application for the HKT store.

The program must have the basic functions of adding, deleting and editing book information. The book.dat file is used to store information of all books in the store.

The author.dat file has stored author information including authorID and name (**The lecturer provides an author.dat file that contains information about 10 authors**)

The relational model is shown as follows: one book can be written by only 1 author; one author can write many books.

Program Specifications

Build a management program. With the following basic functions

0. Build your data structure
1. Show the book list
2. Add new book
3. Update book
4. Delete book
5. Search book
6. Store data to file

Others- Quit

Each menu choice should invoke an appropriate function to perform the selected menu item.

Your program must display the menu after each task and wait for the user to select another option until the user chooses to quit the program.

Each book has the properties such that ISBN, title, price and authorID.

Each author has some information: authorID, name.

Features:

This system contains the following functions:

Display a menu and ask users to select an option.

- **Function 1: Build the data structure**: **100LOC**
  - Classes, abstract classes, and Interfaces are required.
  - bookID, authorID fields cannot change after created.
  - The developer (**you**) must implement the polymorphism properties of object-oriented programming.
- **Function 1: Show the book list-50LOC**
  - This function allows to show all data in the **book.dat** file into the screen.
- **Function 2: Add new book- 100 LOC**
  - The developer creates a submenu that allows the user add new book to the store.
  - Data constraints must be checked such as
    - **bookID value can not duplicate**
    - **author value must be existed in the author list.**
  - This function will add the new book to collection.
  - The program provides options to ask to continuous create new animal or go back to the main menu.

- **Function 3: Update book- 100LOC**
  - This function allows to update book information base on book id
  - The user enters the book id
    - If no book exists, the notification “Book does not exist”.
    - Otherwise, user can start input new information of book and update.
  - **Book information that is updated must be validated.**
  - Process of this function should be shown success or fail status.
  - The program should be allowed user selecting option to returning to the menu.
- **Function 4: Delete Book- 50LOC**
  - This function allows user delete any book in the store base on book id
  - The user enters the book id
    - Before book is removed, the program must show confirm message to user.
    - Process of this function should be shown success or fail status.
  - The program should be allowed user selecting option to returning to the menu
- **Function 5: Search book- 50LOC**
  - The user enters search text.
  - This function allows to user search book of store
    - All book information that has name contain the search text will be shown.
    - If no book is existed, the screen shows message “No book is matched”.
- **Function 6: Store data to file-50LOC**
  - This function allows user store data in collection to book.dat file.

- The above specifications are only basic information; you must perform a requirements analysis step and build the application according to real requirements.
- The lecturer will explain the requirement only once on the first slot of the assignment.