**Pupil’s Library**

You are asked to design, implement and test an application to help a school library with handle the process of lending books to pupils as well as maintaining the administration process. You are asked to build an intelligent login system in which user can be identified as a staff or Pupil. Your programs menu will be adapted based on the logged in user with appropriate menus. Staff or borrowers will be rejected if are not registered. Login menu is as follow:

* **login name**
* **Exit**

Pupils have only access to search book menu:

* **Search by book ID**
* **Search by Book Name**
* **Search by book Author**
* **Exit**

Staff have access to the main menu:

* **Admin process**
* **Borrowers process**
* **List books borrowed by pupil**
* **Search process**
* **Exit**

Operate the library’s functionality through different menus such as admin menu:

* **Add book to library**
* **Delete book from library**
* **Search book menu**
* **Add/Remove staff**
* **Add/Remove pupils**
* **List all registered pupils**
* **List all registered staff**
* **Exit**

Borrowers process menu:

* **Add book to a borrower’s list**
* **Remove book to a borrower’s list**
* **List all books of a borrower**
* **Search book menu**
* **Exit**

After login menu, appropriate menu will be displays. All the menus are working as run time, displays after completion of each task. Exit option take the user to login menu.

Some Suggestions - Create the following classes:

**Book**:- (id, name, author)

**LibraryBook:**- (qty, location, daysToBorrow….. )(extends Book)

**UserLogin**:- (username, password, state (staffs = 1, pupils = 2) )

**Person: (**UserLogin,, name, surname, DOB, address, ……..)

**Staff:-** ( ……..(extends Person))

**Pupil:- :-** ( ………. (extends Person))

**Borrower**:- (Person, booklist(ArryList),………. )

**LibraryApplication**: Login menu -> Staff/Pupil menu -> staff menu if follows by -> Admin/Borrowers process. Pupils have only access to book search menu.

**Some rules:**

The quantity of each book in the library will be decremented when it borrowed by pupils.

Each pupil can borrow up to 5 books.

Borrowing books should be followed by restricted deadlines.

Number of available books should be updated when a book is borrowed or returned to library.

Borrowers should be able to search through the menu and get guidance with appropriate messages such as number of available books, “Book not found. “, “Book is found. Do you want to borrow it?”, “You have already borrowed 5 books” or “None of the copies of the book is not available at the moment” -- when the available quantity is zero.

**Library’s books can be loaded by an automated process and updated when the program terminated**

**Good luck,**