# CSCI 217: Advanced Computer Programming

**Abdelrahman Mahmoud Lotfy 20200616 Kirollos Saleh Farah 202002552**

**Mayar Mamdouh Noshy 202002127**

Section 5A

# Assignment 1 University Library System

Admin Class:

Admin class is responsible for:

* Add/remove Students
* Add/remove librarian
* Add/remove other admins Functions:
  + add\_student() function: It is used to add a student to the student.txt file in order to save the entered data permanently.
  + Search\_student\_id() function: Searches for the student ID in the student.txt.
  + Remove() function: Deletes the selected record by taking a specified object in that record and the path of the file that contains that line
  + remove\_student() function: Removes the selected student from the student.txt file using his ID.
  + add\_libarian() function: It is used to add a librarian to the student.txt file in order to save the entered data permanently.
  + Remove\_libarian() function: Removes the selected librarian from the libarian.txt file using his ID.
  + add\_admin() function: It is used to add a admin to the admin.txt file in order to save the entered data permanently.
  + Remove\_admin() function: Removes the selected admin from the admin.txt file using his ID

## Class books:

Inherits from issuedbooks.

Contains declared private variables, setter, and getter of each of the following:

* + Id
  + Book Name
  + Author Name
  + Available quantity
  + Issued quantity

## Class issuedbooks:

Contains declared private variables, setter, and getter of each of the following:

* + Procedure ID
  + Book ID(Represent the book from Books table)
  + Student ID(Represent the Student from Students table)
  + Returned(True/False)

## Class Librarian:

Inherits from books class.

Contains declared private variables, setter, and getter of each of the following:

* + Librarian id
  + Librarian name
  + Librarian password Functions:
    - Insert\_book() function: Inserts the entered data by the user in book.txt file and saves it permanently.
    - Remove() function: Deletes the selected record by taking a specified object in that record and
    - the path of the file that contains that line
    - Delete\_book() function: Removes the selected book from book.txt.
    - Issue() function: Edits the issued book data and increase issued quantity and decreases the availability. Adds the book to the issuedbooks.txt.
    - Return\_book() function: Edits the issued book data and decreases the issued quantity and increases the availability. Edits the issued book’s returned variable in issuedbooks.txt to true.
    - Search\_student\_name() function: Search for the student by name in student.txt.
    - View\_book() function: Views all the books in book.txt.
    - View\_issuebook() function: Views all the issued books in issuedbook.txt
    - Register() function: Registers a new user to the system by saving his data in userinfo.txt.
    - Search\_username() function: Searches if the user is applicable to log in or not by searching for his username and password in userinfo.txt.
    - Log\_in() function: Returns true if the user is applicable to log in and false if not.
    - Search\_book\_by\_id() function: Searches for a book with the specified ID and prints the Specified ID only!
    - Search\_book\_by\_name() function: Searches for the specified book by Name and prints all the books with the specified name.
    - Search\_book\_id() function: Returns true if the book was found with the specified object to search with. Else, it returns false]
    - create\_barcode () function: User can make a barcode
    - Read\_barcode()function: user can read the barcode so he knows the code’s book

## Class Student:

Contains declared private variables, setter, and getter of each of the following:

* + Student ID
  + Student name
  + Student Birthday
  + Email
  + Mobile number

**GUI**

we made a GUI using java swing and javafx

we made a GUI for admin and librarian

the GUI contain 21 frames that contain the attributes and the functions of the admin and the librarian

**DATABASE using MYSQL**

We made a database by using my SQL so we have the data of books, issued books, students, admins, librarians so any update will appear in our DATABASE