

Library Management System

In this project you will be building “Library Management System” using object-oriented programming techniques. This program will use *books.txt* file that you will create as a database where each line will represent a single book. At each line, book name, author, release date and number of pages will be kept and separated with a comma.

1. Create a class named “Library”:

- a. Create the constructor method to open the *books.txt* file, and destructor method to close the file.

Tip: If you open *books.txt* with “a+” mode, you can both read and append lines to the file. And also, if *books.txt* is not created previously, this mode will create the file.

2. Add the following methods to library:

a. List Books

This method will list all the books in the *books.txt* file.

- i. Read the contents of the file.
- ii. Add each line to a list using *splitlines()* method of the string object.
- iii. Now each element of the list holds information about a single book. Print book names and authors using this information.

b. Add Book

This method will add a book to a *books.txt* file.

- i. Ask user input for book title, book author, first release year and number of pages
- ii. Create a string with this information. Add book title then comma then author then comma etc.
- iii. Append this line to the file.

c. Remove Book

This method will delete the book with the given title from the *books.txt*.

- i. Ask the user input for book title.
- ii. Read the file contents and add book to a list (just like you did while creating a list books method).
- iii. Find the index of the book to be deleted in the list.
- iv. Remove the book from the list.
- v. Remove the contents of the *books.txt*.
- vi. Add all elements of the list to the *books.txt*.

*** With this method you remove contents of the *books.txt* and rewrite the new list. If you don't remove the contents, it will add the same books again to the file.**

- 3.** Create an object named "lib" with "Library" class.
- 4.** Create a menu to interact with the "lib" object.
 - a.** Print the following to the screen
***** MENU*****
 - 1) List Books**
 - 2) Add Book**
 - 3) Remove Book**
 - b.** Ask user input for menu item and assign the input to a variable.
 - c.** Using *if-elif-else* statement check the user input.
 - d.** According to the user input, run the relevant method of the "lib" object.