ALGORITHM

Add Book:

Step 1: Create a class as Add

Step 2: In Private, Declare the variables as Book id, Book Name, Book no, Author Name

Step 3: In public, declared the functions to add books and to display the file data that was entered and present within file.

Step 4: A new file database.txt is created and the books data are added to this file and the content is stored within this file.

Delete Book:

Step 1: Create a class as Delete

Step 2: In Private, Declare the variables as Book id, Book Name, smatch and a flag is used

Step 3: In public, declared functions as deletion by bookname and deletion by bookid. We can delete a book data from file either by accessing it by its name or by its id.

Step 4: The book data to be deleted will be within the database file and the data that doesn't match will be appended to the temporary file and the database file will be deleted and the temporary file will be renamed as the database file

Search Book:

Step 1: Create a class as Search

Step 2: In Private, Declare the variables as Book id, Book Name, smatch and a flag is used

Step 3: In public, a book can be searched either by bookid, bookname or by author name and functions are declared for searching operation based on requirement.

Step 4: The data within the file is separated by colon and based on this the data is searched and is displayed.

Return Book:

Step 1: Create a class as Return book

Step 2: In Private, Declare the variables as Book id, Book Name, Book count and author

Step 3: Book Issued date will be taken and based on the issued date after 15 days of book issued date book should be returned to the library. The user need to return the book within 15 days of issued else penalty should be paid.

Step 4: Based on the number of days exceeded from the book to be returned date penalty is calculated and 3 rupees should be paid per day as a penalty.

Issue book:

Step 1: Create a class named student.

Step 2: In Private, Declare the variables as Book id, Book Name, Student id, Student name and student branch.

Step 3: In public, functions are declared to add student data to whom book is issued and is displayed.

Step 4: A separate file named text.txt is created to store the details of issued books.

Step 5: The data of the issued book can be searched and is deleted when the book is returned from this database.

Main function:

Step 1: Menu will be displayed to know whether the login is either admin or student. Each will have their own login procedure.

Step 2: For Admin, password is required to login. Admin will be given three chances and if password is wrong access will be blocked. If correct password is given then admin can access the database.

Step 3: User can access LMS directly.

Step 4: After successful admin login, admin will be given access to add, delete, view, search books, Issue books and to collect returned books.

Step 5: After successful user login he will be given access to view database, search book and to collect required book.