**LIBRASYNC DOCUMENTATION**

VERSION: 1.0

GITHUB: <https://github.com/krishna18developer/CampusConnect/>

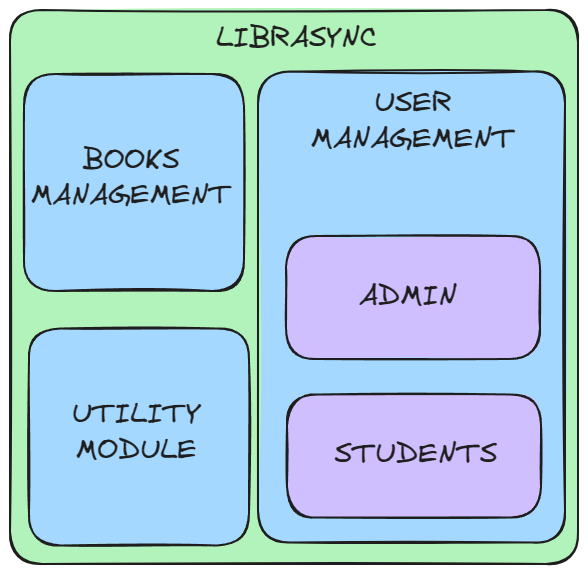
Librasync is a command-line application designed to automate library tasks. It facilitates book and patron management, borrowing, returning, and searching functionalities.

TEAM DETAILS:

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THIS DOCUMENT CONTAINS CLEAR WORKING MECHANISM FOR EACH AND EVERY FUNCTION PRESENT IN THE LIBRASYNC – LIBRARY MANAGEMENT SYSTEM.

PROGRAMMING LANGUAGE: C (C99)

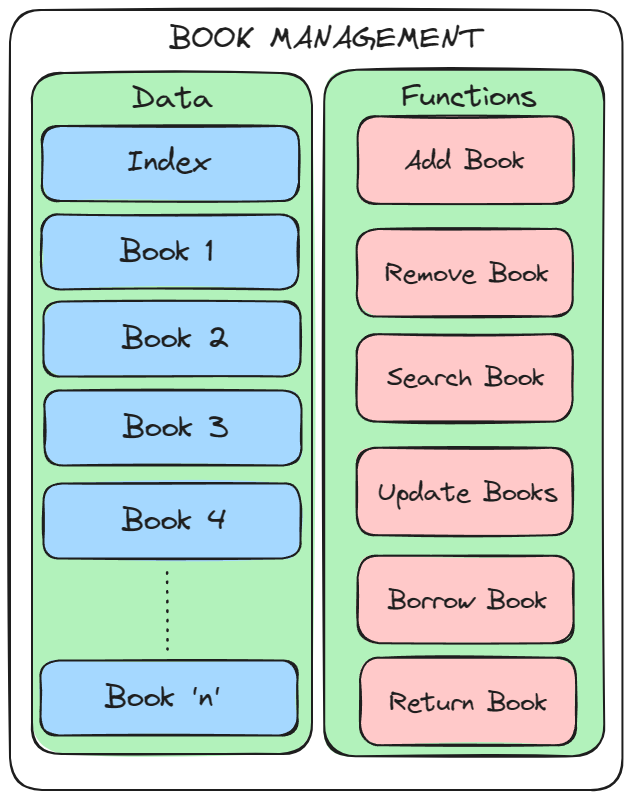
THE LIBRASYNC WILL HEREBY BE REFERENCED AS THE MAIN PROGRAM IN THE FOLLOWING PAGES.

THE MAIN PROGRAM IS DIVIDED INTO 3 PARTS

1. BOOK MANAGEMENT
2. USER MANAGEMENT
3. UTILITY

EACH MODULE WILL BE COVERED IN THE FOLLOWING PAGES.

**BOOK MANAGEMENT**



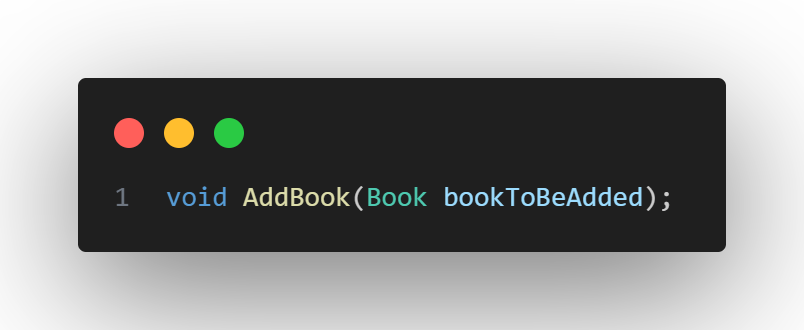
DATA

INDEX

1. MORE PRECISELY “ BINDEX.TXT “ CONTAINS THE RELEVANT DATA ENTRY OF NUMBER OF BOOKS PRESENT IN THE MAIN PROGRAM­­
2. IT CONTAINS THE UID OF EACH AND EVERY BOOK.
3. THEREBY HELPS US RETRIEVE THE REFERENCE TO ALL THE BOOKS

BOOK

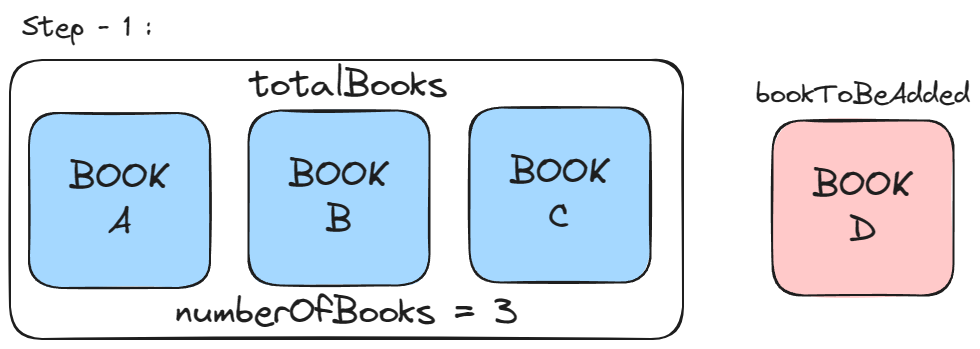
1. EACH BOOK FILE NAME IS AN UUID
2. EXAMPLE “B-b6037404-39d0-42e3-8a61-fa9f1b346625.txt”
3. EACH FILE WILL CONTAIN DETAILS OF THE BOOK SUCH AS
4. NAME
5. AUTHOR
6. GENRE
7. PRICE
8. PUBLISHED YEAR
9. NUMBER OF COPIES
10. NUMBER OF PEOPLE BORROWED
11. BORROWED USERS

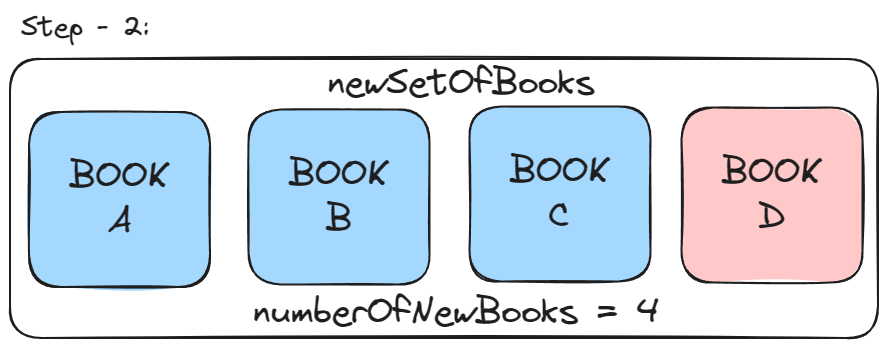
FUNCTIONS

ADD BOOK

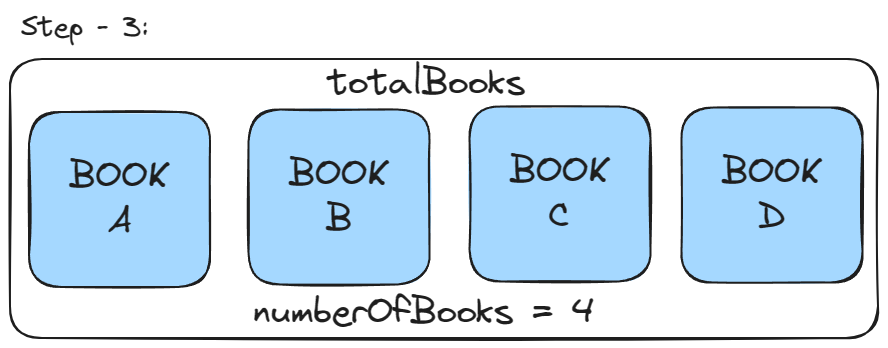
* THIS FUNCTION TAKES 1 PARAMETER,

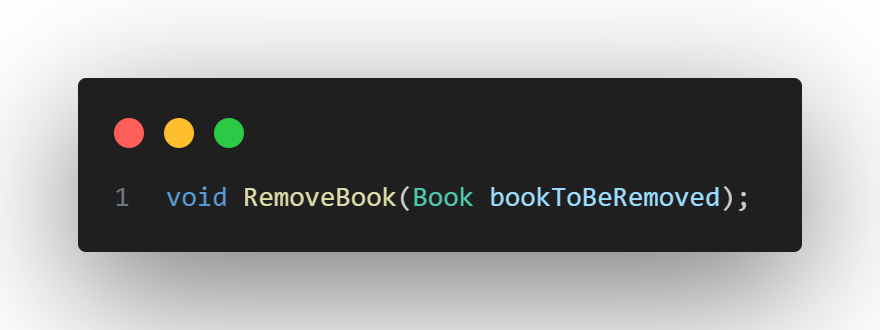
Book bookToBeAdded.

WORKING PRINCIPLE

TAKE A NEW DYNAMICALLY ALLOCATED ARRAY OF SIZE numberOfNewBooks = numberOfBooks + 1

STORE ALL THE BOOKS FROM totalBooks IN newSetOfBooks, AND STORE THE bookToBeAdded AT THE index numberOfBooks, INCREMENT numberOfbooks BY 1.

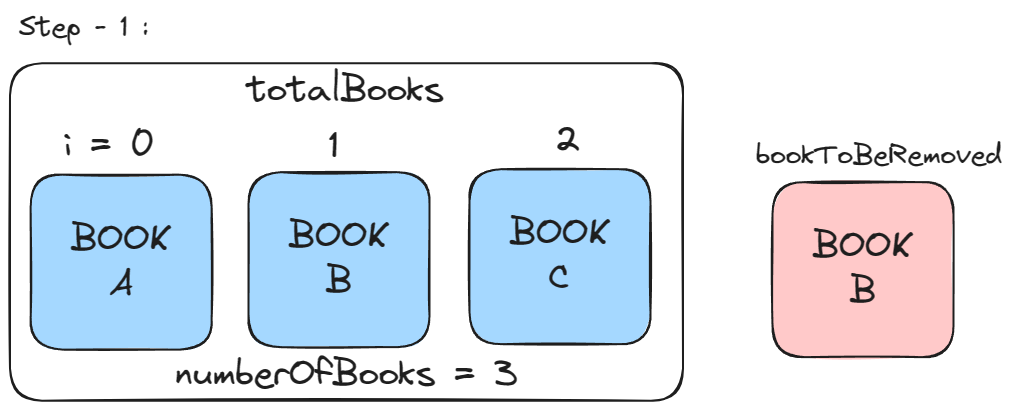
FREE THE totalBooks MEMORY SPACE AND THEN EQUATE IT TO newSetOfBooks.



REMOVE BOOK

* THIS FUNCTION TAKES 1 PARAMETER,

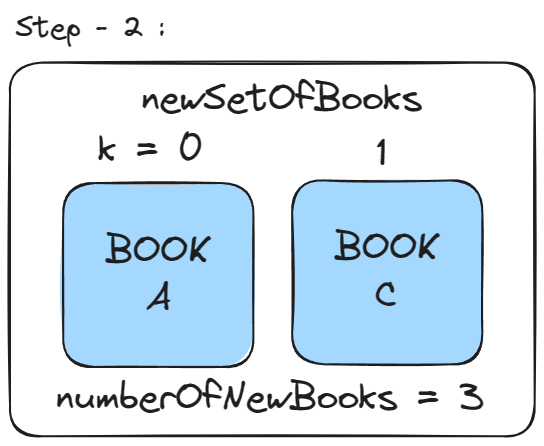
Book bookTobeRemoved

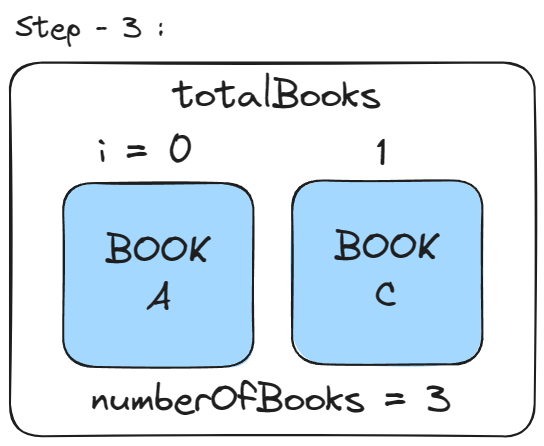
WORKING PRINCIPLE

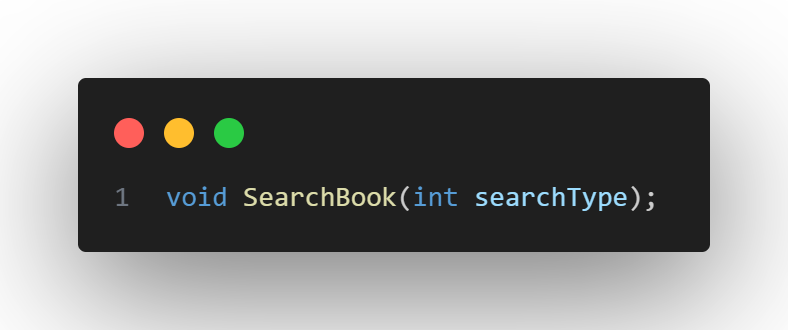
TAKE A NEW DYNAMICALLY ALLOCATED ARRAY OF SIZE numberOfNewBooks = numberOfBooks - 1

NOW COMPARE EACH BOOK IN totalBooks WITH bookToBeRemoved, IF THE BOOKS ARE NOT EQUAL THEN ADD IT INTO THE newSetOfBooks

DECREMENT numberOfbooks BY 1.



FREE THE totalBooks MEMORY SPACE AND THEN EQUATE IT TO newSetOfBooks.

FUNCTIONS

SEARCH BOOK

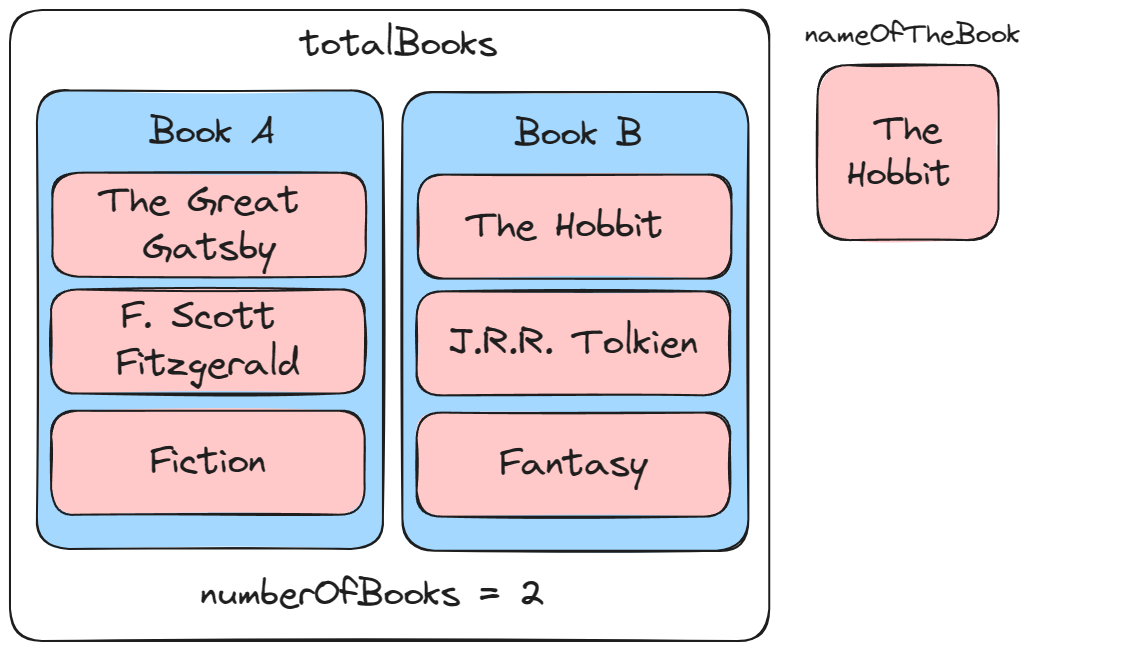
* THIS FUNCTION TAKES 1 PARAMETER,

int searchType.

searchType accepetable values are

BYNAME, BYAUTHOR, BYGENRE ( REFER CONSTANTS.H )

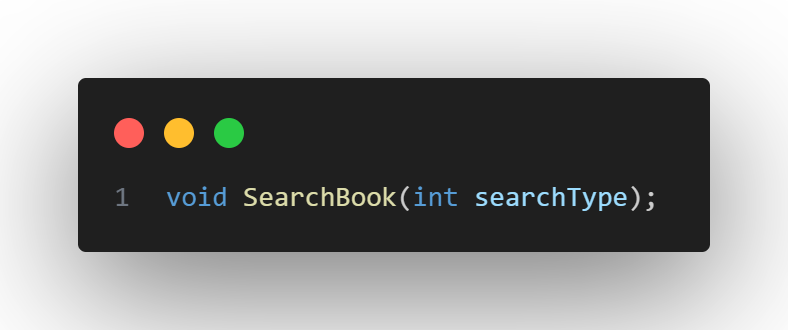
WORKING PRINCIPLE

INTRODUCE A SWITCH CASE ON searchType AND IMPLEMENT APPROPRIATE LOGIC FOR SEARCHING OF BOOKS EITHER BY NAME, AUTHOR OR GENRE.

BUT HERE LIES GENERALISED WORKING PRINCIPLE FOR CHECKING.

IN THIS EXAMPLE, CHECKING BY NAME IS IMPLEMENT.

FIRST CHECK IF THE NAME OF BOOK IS EQUAL TO NAME IN EACH BOOK, IF TRUE PRINT THE BOOKS FOUND WITH MATCHING FACTOR.

UPDATE BOOKS