Project Report

Topic : Library management system project

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\*Number of functions in the project : 64

\*Number of files in the project : 9

\*Number of structs in the project : 5

Introduction

Our project is a library system that stores for each book the title, the author, publisher , ISBN , date of publications , number of copies , current available number of copies and categories.

Also our project stores members’ first and last name , ID , address , phone number , age and e-mail.

It also stores the borrowing information like the date borrowed, date due to return and date returned.

It includes six menus including :

1-Book management.

2-member Management.

3-Borrow Management.

4-administrative actions.

5-print books , members or borrows.

6-save changes.

7-Exit

A representation For my Project in pseudo code

Books functions :

1-read books :

Reading books text file

2-write books :

Writing books text file

3-load books info :

Loading books information

1-x local structure array

2-read book.txt

3-read bookstemp.txt (temporary books file)

4-checking if books tem exist

5-if books temp doesn’t exist check if fbook exist

6-if fbooks doesn’t doesn’t exist number of actual books=0 and close all files

7-if fbooks exist read the information stored in fbooks from the beginning to the end of the file

8- storing the information in the global structure array (books) from the local one

9-close all the files

10-save actual number of books without repetition

11-if books.temp exist read the information stored in fbookstemp.txt from the beginning to the end of the file

12-save all information in global structure array (Books)

13-close all files

4-addbooks:

1-clear screen

2-identifying a local array structure (b)

3-read books.txt

4-read bookstemp.txt

5-if books.txt doesn’t exist create books.txt file

6-if books.temp.txt doesn’t exist create the file to be modified

7-enter books information and validate each information to be true or not (Author,date of publication,number of copies)

8-check if the Entered ISBN is unique

9-save in bookstemp.txt

10-if books.txt exist and if bookstemp.txt exist

11-enter books information and validate each information to be true or not (Author,date of publication,number of copies)

12-check if the Entered ISBN is unique

13-save in bookstemp.txt

5-search author:

1-clear screen

2-enter the search target

3-check if the search target matches author name in any of the books

4-if the search target matches number of books print the number of matches found

5-identifying a local structure array called authordata

6-find the books that the search target matches the author name in them and save them into authordata array

7-print the matched books

8-if the search target doesn’t match any of the author name of the books return to search menu

6-Search category :

1-clear screen

2-enter the search target

3-check if the search target matches category in any of the books

4-if the search target matches number of books print the number of matches found

5-identifying a local structure array called authordata

6-find the books that the search target matches the author name in them and save them into authordata array

7-print the matched books

8-if the search target doesn’t match any of the category of the books return to search menu

7-SearchIsbn :

1-clear screen

2-enter the search target

3-check if the search target matches ISBN in any of the books

4-if the search target matches the ISBN of number of existing book in the file

5-get the place of the book in the global array (books)

6-print the matched book from the global array

7-if the search target doesn’t match any of the ISBN of the book return to search menu

8-searchtitle :

1-clear screen

2-enter your search target

3-check if a part from your search target matches any of the Titles parts of the books stored in the global array structure (book)

4- Store this data in a new local structure array (titledata)

5-print the data you stored

6-if there are no matches return to search menu

9-add copy :

1-clear screen

2-read the books file

3-Make a new file (deletetemp.txt)to store the new data in

4-search for the book you want to add a copy to by the book’s ISBN

5-increase the number of copies and number of available copies

6-get each line from the books.txt file and put it in the deletetemp file except the book you want to change and change it by printing it again in deletetemp.txt file from the global structure array

7-if there is no matching ISBN return to main menu

10-popular :

1-loading books file information

2-close books.txt and boookstemp.txt

3-identify a new local structure array name x

4-store all the information of the global structure array in the local one

5-selection sort step :

\*comparing each element with the element after it in the array by using for loop from 0 to (the number of books-1)

\*if the rank of the book of an element is less than the element after it then swap them in descending order

6-when the selection sort is done print the most popular 5 books in the local structure array (x)

7-if there are no books then return to adminmenu

11-printallbooks:

1-clear screen

2-by using for loop it will prints all the books exist in the file

12-deletebook :

1-clear screen

2-read the books file

3-Make a new file (deletetemp.txt)to store the new data in

4-search for the book you want to delete by the book’s ISBN

6-get each character from the books.txt file and put it in the deletetemp file except the book you want to delete

7-if there is no matching ISBN return to main menu

2-Members functions :

1-readmembers :

Read members.txt file

2-writemembers :

create members.txt file

3-load members info :

1-x local structure array

2-read members.txt

3-read memberstemp.txt (temporary books file)

4-checking if members.temp exist

5-if members temp doesn’t exist check if fmembers exist

6-if fmembers doesn’t doesn’t exist number of actual members=0 and close all files

7-if fmembers exist read the information stored in fmembers from the beginning to the end of the file

8- storing the information in the global structure array (members) from the local one

9-close all the files

10-save actual number of members without repetition

11-if members.temp exist read the information stored in fmemberstemp.txt from the beginning to the end of the file

12-save all information in global structure array (members)

13-close all files

3-reg(add member) :

1-clear screen

2-read members.txt

3-if members.txt doesn’t exist create it and if memberstemp.txt doesn’t exist create and append it

4-enter the information of the member and validate each of them

5-if the user ID already exist return to main menu

6-Save in memberstemp.txt

8-if members.txt exist and memberstemp.txt exist

9- enter the information of the member and validate each of them

10-if the user ID already exist return to main menu

11-Save in memberstemp.txt

12-close all files

4-remove member :

1-clear screen

2-read the members file

3-Make a new file (memberscopy.txt)to store the new data in

4-search for the member you want to remove by the member’s ID

6-get each character from the members.txt file and put it in the memberscopy.txt file except the member you want to delete

7-if there is no matching ID return to main menu

5-printallmembers :

1-clear screen

2-by using for loop it will prints all the members exist in the file

3-Borrow functions :

3-load borrow:

1-x local structure array

2-read members.txt

3-read memberstemp.txt (temporary books file)

4-checking if borrows.temp exist

5-if members temp doesn’t exist check if fborrows exist

6-if fborrows doesn’t doesn’t exist number of actual members=0 and close all files

7-if fborrows exist read the information stored in fborrows from the beginning to the end of the file

8- storing the information in the global structure array (borrows) from the local one

9-close all the files

10-save actual number of members without repetition

11-if borrows.temp exist read the information stored in fborrowstemp.txt from the beginning to the end of the file

12-save all information in global structure array (borrows)

13-close all files

4-borrowbook:

1-By using <Time.h> we will call the actual date to use it to determine the due date and the issue date .

2-print all books.

3-check if borrow.txt exist and borrowstemp exist

4-enter user’s ID and check its existence if it doesn’t exist return to borrow menu

5-check that the borrow counter of the user is less than 3 if not it will return to main menu

7-enter the target book ISBN an check its existence

8-copy the books ISBN to the global structure array (borrow)

9-check the available number of copies if its greater than zero decrease the available number of copies in the books global structure and increase the rank

10-Define the due date as 5 days after the issue date and check if the day is bigger 31 and the month is bigger than 12

11-close all files.

5-overdue: