PPS MINI PROJECT REPORT

Management of books in a library using C

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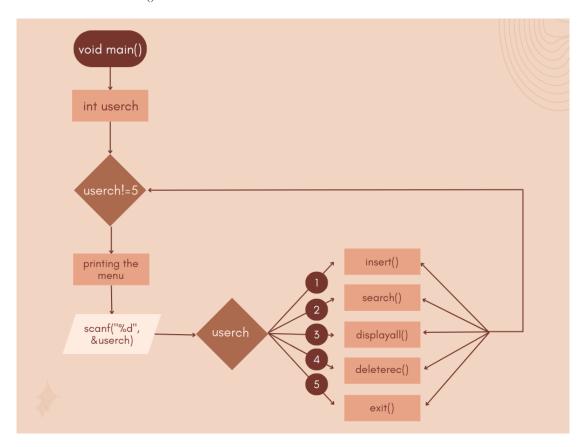
ROLL NUMBER: RA2111030010044

DEPARTMENT : CSE with specialization in Cybersecurity

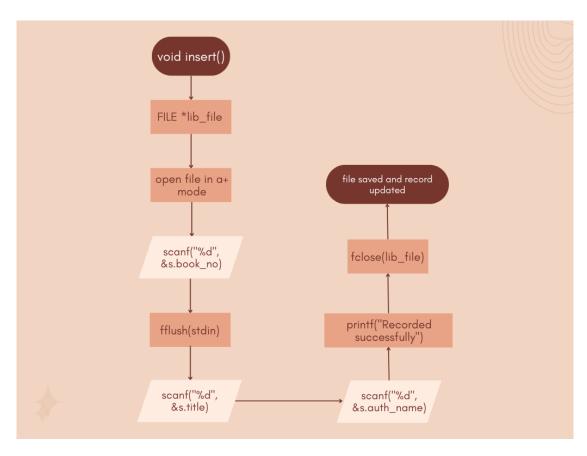
SECTION: M1

The Methodology Used

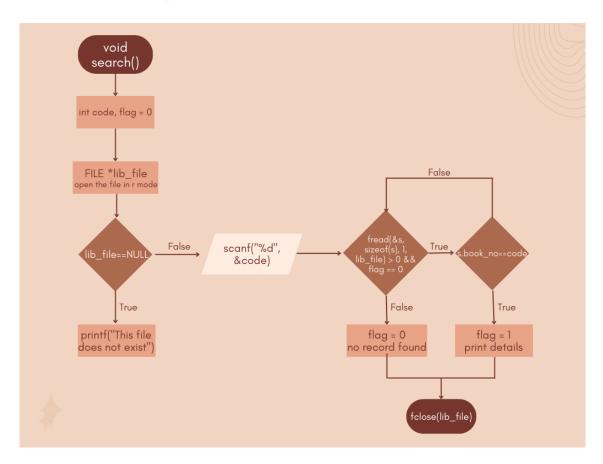
Flowchart for void main()



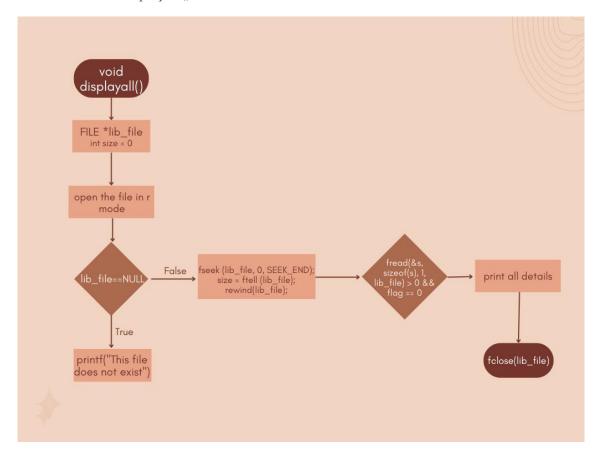
Flowchart for void insert()



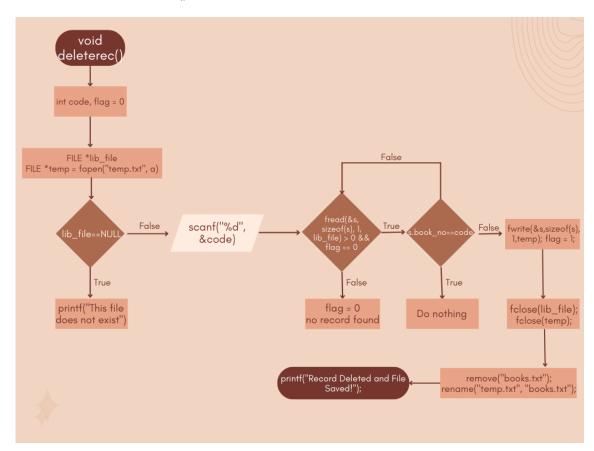
3. Flowchart for void search()



4. Flowchart for void displayall()



5. Flowchart for void deleterec()



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```
1. #include <stdio.h>
2. #include <stdlib.h>
4. void insert();
5. void search();
void displayall();
7. void deleterec();
8.
9. struct book
10.{
11.
       int book_no;
12.
       char title[50];
13.
       char auth_name[50];
14. };
15.
16. struct book s;
18. void main()
19. {
       int userch;
20.
21.
       while (userch != 5)
22.
           printf("\n\n");
23.
24.
           printf("\tWELCOME TO THE LIBRARY\n\n\n");
25.
26.
           printf("\tChoose from one of the options below :\n\n");
           printf("\t\t1. Insert a Book Record\n");
27.
           printf("\t\t2: Search for a Book Record\n");
28.
           printf("\t\t3: Display all Book Records\n");
29.
           printf("\t\t4: Delete a Book Record\n");
30.
           printf("\t\t5: Exit\n\n");
31.
           printf("\tEnter Your Choice : ");
32.
           scanf("%d", &userch);
33.
34.
           switch (userch)
35.
36.
           case 1:
37.
               system("clear");
38.
               insert();
39.
               break;
40.
41.
           case 2:
               system("clear");
42.
               search();
43.
44.
               break;
45.
46.
           case 3:
               system("clear");
48.
               displayall();
               break;
49.
50.
           case 4:
51.
               system("clear");
52.
53.
               deleterec();
54.
               break;
55.
56.
           case 5:
57.
               exit(1);
58.
               break;
59.
```

```
60.
           default:
61.
                printf("\n\tPlease enter your choice according to the options!\n\n");
62.
       }
63.
64.}
65.
66.void insert()
67. {
68.
69.
       FILE *lib_file;
       lib file = fopen("books.txt", "a+");
70.
       printf("\n\n\tENTER BOOK DATA\n\n");
71.
       printf("\t\tEnter Book Code : ");
72.
       scanf("%d", &s.book_no);
73.
74.
       fflush(stdin);
75.
       printf("\n\t\tEnter Book's Title : ");
       scanf("%s", s.title);
76.
77.
       printf("\n\t\tEnter Author's Name : ");
78.
       scanf("%s", s.auth_name);
79.
       fwrite(&s, sizeof(s), 1, lib_file);
80.
81.
           printf("\n\n\tRecorded Successfully!\n\n");
82.
83.
       fclose(lib file);
       printf("\tFile Saved and Record Updated!\n\n");
84.
85.}
86.
87.void search()
88. {
89.
       int code, flag = 0;
90.
       FILE *lib_file;
       lib_file = fopen("books.txt", "r");
91.
92.
       if (lib_file == NULL)
93.
       {
           printf("\n\t\tThis file does not exist.");
94.
95.
           return;
96.
       }
97.
       printf("\n\n\tEnter the code of the book you want to search for : ");
98.
       scanf("%d", &code);
       while (fread(\&s, sizeof(s), 1, lib file) > 0 && flag == 0)
99.
100.
         {
             if (s.book no == code)
101.
102.
             {
103.
                  flag = 1;
                  printf("\n\n\tHere are the book details :\n");
104.
                  printf("\n\t\tBook Code: %d", s.book_no);
105.
                  printf("\n\t\tTitle of the Book: %s",s.title);
106.
                  printf("\n\t\tName of the Author: %s\n\n",s.auth_name);
107.
             }
108.
109.
         if (flag == 0)
110.
111.
             printf("\n\n\t\tRecord Doesn't Exist!\n\n");
112.
113.
114.
         fclose(lib_file);
115. }
116.
117. void displayall()
118. {
         int code, size = 0;
119.
120.
121.
         FILE *lib_file;
         lib_file = fopen("books.txt", "r");
122.
123.
         if (lib_file == NULL)
```

```
124.
         {
125.
             printf("\n\t\tThis file does not exist.");
126.
             return;
         }
127.
128.
         if (lib_file != NULL)
129.
130.
131.
             fseek (lib_file, 0, SEEK_END);
132.
             size = ftell (lib_file);
133.
             rewind(lib_file);
134.
         }
135.
         if(size==0)
136.
137.
           printf("\tThe File is empty! Please enter some records first.\n");
138.
139.
140.
141.
         else{
             printf("\n\n\tHere are the book details :\n");
142.
143.
             while (fread(&s, sizeof(s), 1, lib_file) > 0)
144.
145.
                 printf("\n\t\tBook Code: %d", s.book_no);
                 printf("\n\t\tTitle of the Book: %s",s.title);
                 printf("\n\t\tName of the Author: %s\n\n",s.auth_name);
147.
148.
             }
149.
             fclose(lib_file);
150.
         }
151.
152. }
153.
154. void deleterec()
155. {
156.
         int code, flag = 0;
157.
         FILE *lib_file;
         FILE *temp = fopen("temp.txt","a");
159.
         lib_file = fopen("books.txt", "r");
         if (lib_file == NULL)
160.
161.
             printf("\n\t\tThis file does not exist.");
162.
163.
             return;
164.
         printf("\n\n\tEnter the code of the book you want to delete : ");
165.
166.
         scanf("%d", &code);
167.
         while (fread(&s, sizeof(s), 1, lib_file) > 0 && flag == 0)
168.
169.
             if (s.book_no == code)
170.
171.
             {
172.
             }
173.
174.
175.
             else
176.
               fwrite(&s, sizeof(s),1, temp);
177.
178.
               flag = 1;
179.
             }
180.
         }
181.
         if (flag == 0)
182.
183.
184.
             printf("\n\n\t\tRecord Doesn't Exist!\n\n");
185.
186.
187.
         fclose(lib_file);
```

```
188. fclose(temp);
189. remove("books.txt");
190. rename("temp.txt", "books.txt");
191. printf("\tRecord Deleted and File Saved!\n\n");
192.
193. }
```

Execution of The Code

1. The main menu of the program

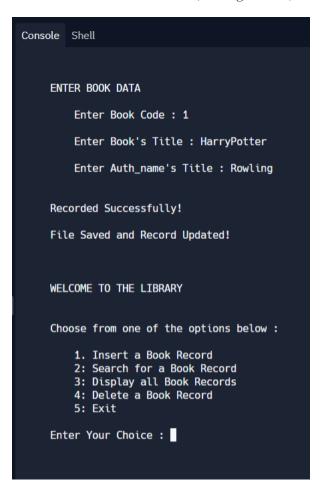
```
console Shell
  make -s
  ./main

WELCOME TO THE LIBRARY

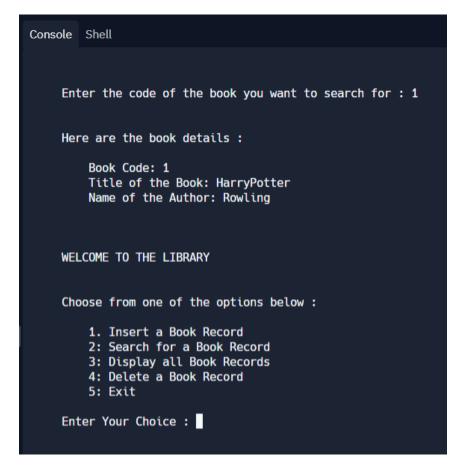
Choose from one of the options below :
    1. Insert a Book Record
    2: Search for a Book Record
    3: Display all Book Record
    4: Delete a Book Record
    5: Exit

Enter Your Choice :
```

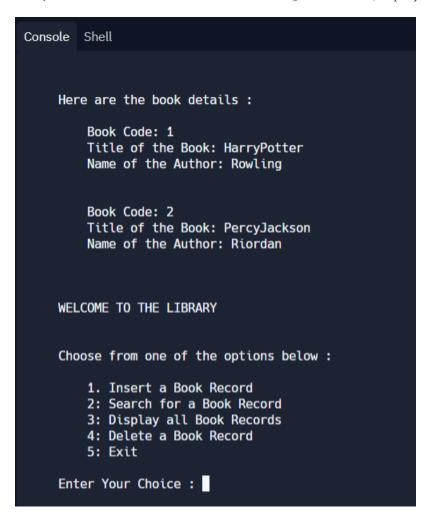
2. Entered "1" as choice (adding record)



3. Entered "2" as choice (searching for record)



4. Added another record and entered "3" as choice (display all records)



5. Entered "5" as choice (deleting record)



6. Displaying records after deleting record number "2" and exiting using "5" as choice

