PROGRAMMING FOR PROBLEM SOLVING (18CSS101J)

JASWANTH YALAVARTHI (238) ANSH ARORA (228) JEFF JOJI (258) SANDESH RAJBHAR (261)

LIBRARY MANAGEMENT SYSTEM

OBJECTIVE:

To make a library management system for handling of data and managing day to day operations.

CONCEPT USED:

Structures

PROBLEM DEFINITION:

We use structures to define a set and store data to solve the problem of manual hard work which is time consuming and instead use this method which is more efficient and less prone to errors.

PURPOSE OF LIBRARY MANAGEMNT SOFTWARE:

- The purpose of a library management system is to operate a library with efficiency and at a reduced cost. The system being entirely automated streamlines all the tasks involved in operations of the library.
- The activities of book purchasing, cataloging, indexing, circulation recording, and stock checking are done by the software. Such software eliminates the need for repetitive manual work and minimizes the chances of errors.
- The library management systems are simple and easy to use for the librarian as well as the students. The system provides online and offline storage of data. The system automatically updates and backups data. The system is flexible and can be adapted to the needs of the institution.

ALGORITHM:

STEP 1: Declare the structure which holds the data member.

STEP 2: Declare the variables which are used for loops.

STEP 3: Use switch cases to work on each module.

STEP 4:

Case 1: Adding Book Information.

Case 2: For Displaying Book Information.

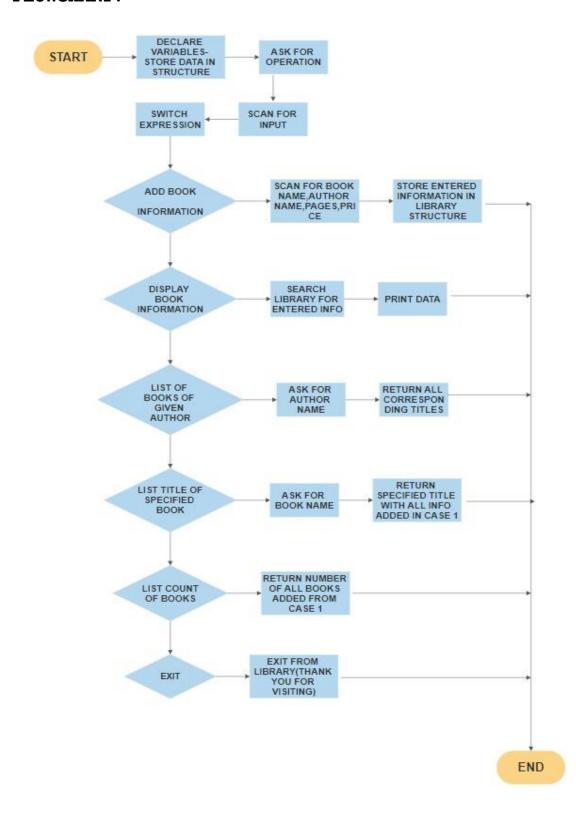
Case 3: For Displaying Book by Using Author Name.

Case 4: For Displaying Book by Using Book Name.

Case 5: To Display the Number of Books in Library.

Case 6: To Exit.

FLOWCHART:



CODE IN C LANGUAGE:

```
#include<stdlib.h>
#include<stdio.h>
#include<string.h>
struct library
  char bk_name[30];
  char author[30];
  int pages;
 float price;
};
int main()
{
 struct library l[100];
       char ar_nm[30],bk_nm[30];
       int i,j,keepcount;
 i=j=keepcount = 0;
while(j!=6) {
    printf("\n\n***###### WELCOME TO LIBRARY MANAGEMENT SYSTEM#####****\n");
    printf("\n\n1. Add book information\n2. Display book information\n");
    printf("3. List all books of given author\n");
    printf("4. List the title of specified book\n");
    printf("5. List the count of books in the library\n");
    printf("6. Exit");
    printf ("\n\nEnter one of the above : ");
    scanf("%d",&j);
switch (j){
case 1:
       printf ("Enter book name = ");
       scanf ("%s",l[i].bk_name);
printf ("Enter author name = ");
       scanf ("%s",1[i].author);
  printf ("Enter pages = ");
 scanf ("%d",&l[i].pages);
printf ("Enter price = ");
 scanf ("%f",&l[i].price);
 keepcount++;
break;
case 2:
printf("you have entered the following information\n");
       for(i=0; i<keepcount; i++){</pre>
                printf ("book name = %s",1[i].bk_name);
        printf ("\t author name = %s",1[i].author);
              printf ("\t pages = %d",1[i].pages);
```

```
printf ("\t price = %f",l[i].price);
}
break;
case 3:
printf ("Enter author name : ");
       scanf ("%s",ar_nm);
for (i=0; i<keepcount; i++){</pre>
        if (strcmp(ar_nm, l[i].author) == 0)
       printf ("%s %s %d %f\n",1[i].bk_name,1[i].author,1[i].pages,1[i].price);
}
break;
case 4:
printf ("Enter book name : ");
scanf ("%s",bk_nm);
for (i=0; i<keepcount; i++){</pre>
        if (strcmp(bk_nm, 1[i].bk_name) == 0)
              printf ("%s \t %s \t %d \t
%f",l[i].bk_name,l[i].author,l[i].pages,l[i].price);
break;
case 5:
printf("\n No of books in library : %d", keepcount);
        break;
case 6:
printf("Thank you for visiting the library!\n");
exit (0);
}
return 0;
```

OUTPUTS FOR THE CODE:

****##### WELCOME TO LIBRARY MANAGEMENT SYSTEM#####****

1. Add book information
2. Display book information
3. List all books of given author
4. List the title of specified book
5. List the count of books in the library
6. Exit

Enter one of the above :

OUTPUT FOR CASE 1:

Enter one of the above : 1

Enter book name = Programming

Enter author name = Author

Enter pages = 50

Enter price = 20

Enter one of the above : 1

Enter book name = Programming2

Enter author name = Author2

Enter pages = 100

Enter price = 50

Enter one of the above : 1

Enter book name = Programming3

Enter author name = Author

Enter pages = 150

Enter price = 60

OUTPUT FOR CASE 2:

Enter one of the above : 2

you have entered the following information

book name = Programming author name = Author pages = 50 price = 20

.000000book name = Programming2 author name = Author2 pages = 100 price

= 50.000000book name = Programming3 author name = Author pages = 150

price = 60.000000

OUTPUT FOR CASE 3:

Enter one of the above : 3 Enter author name : Author

Programming Author 50 20.000000
Programming3 Author 150 60.000000

OUTPUT FOR CASE 4:

Enter one of the above : 4

Enter book name : Programming

Programming Author 50 20.000000

OUTPUT FOR CASE 5:

Enter one of the above : 5
No of books in library : 3

OUTPUT FOR CASE 6:

Enter one of the above : 6

Thank you for visiting the library!