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**UNITED INTERNATIONAL UNIVERSITY(UIU)**

CSE 1112/CSI 122: Structured Programming Language Laboratory

## PROJECT

Submitted to:

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#include<stdio.h>

#include<string.h>

#include<stdlib.h>

struct books book;

struct students student;

FILE \*file,\*Student\_file,\*issu\_file, \*file2,\*file3;;

struct books

{

    char name[200];

    char author[100];

    int id;

};

struct students

{

    char name[10];

    int id;

    char depertment[100];

};

void password()

{

    int s=1;

    char id;

    char pass1[10]={"STUDENT"};

    char pass2[10];

    printf("\n \t\t Enter Your Id: ");

    scanf("%s",id);

    fflush(stdin);

    printf("\n \t\t Enter Password: ");

    gets(pass2);

    if(strcmp(pass1,pass2)==0)

    {

        printf("\n\n \t\t Match Password!!\n");

        printf("\n\n \t\t Press any key....");

    }

    else

    {

        if(s==3)

        {

            exit(0);

        }

        printf("\n\n \t\t Wrong Password!!%d to 3\n",s);

        printf("\n\n \t\t  Try agin....");

        s++;

        fflush(stdin);

        getchar();

        password();

    }

        fflush(stdin);

        getchar();

}

void viewbook()

{

    printf("Available Books\n");

    file = fopen("library.txt", "r");

    printf("Book ID\tBook Name\tAuthor Name\n");

    while(fread(&book,sizeof(book),1,file))

    {

        printf("%d\t%s\t\t%s\n",book.id,book.name,book.author);

    }

    fclose(file);

}

void addbook()

{

    file = fopen("library.txt","a");

    printf("Book ID: ");

    scanf("%d",&book.id);

    printf("\nBook name: ");

    fflush(stdin);

    gets(book.name);

    printf("\nAuthor name: ");

    fflush(stdin);

    gets(book.author);

    fwrite(&book,sizeof(book),1,file);

    fclose(file);

}

void issuebook()

{

    int x=0,id;

    printf("Enter Book id to issue: ");

    scanf("%d", &id);

    file = fopen("library.txt", "r");

    while(fread(&book, sizeof(book), 1, file) == 1)

    {

        if(id == book.id)

        {

            x=1;

            break;

        }

    }

    if(x==0)

    {

        printf("No book found with this id\n");

        printf("Please try again...\n\n");

        return;

    }

    issu\_file = fopen("issue.txt", "a");

    printf("Enter Student Name: ");

    fflush(stdin);

    gets(student.name);

    printf("Enter Book Name: ");

    fflush(stdin);

    gets(book.name);

    fflush(stdin);

    printf("Depertment: ");

    gets(student.depertment);

    printf("Book Issued Successfully\n");

    fprintf(issu\_file,"%s\t%s\t%s\n",student.name,book.name,student.depertment);

    fclose(issu\_file);

}

void issuedbook()

{

    printf("Student\tBook\tDepertment\tID\n");

    issu\_file = fopen("issue.txt", "r");

    while(!feof(issu\_file))

    {

        fscanf(issu\_file,"%s\t%s\t%s",student.name,book.name,student.depertment);

        printf("%s\t%s\t%s\n",student.name,book.name,student.depertment);

    }

    fclose(issu\_file);

}

void deletebook()

{

    int id, y=0;

    printf("Enter Book id to remove: ");

    scanf("%d", &id);

    file = fopen("library.txt", "r");

    file2 = fopen("temp.txt", "wb");

    while(fread(&book, sizeof(book), 1, file) == 1)

    {

        if(id == book.id)

        {

            y=1;

        }

        else

        {

            fwrite(&book, sizeof(book), 1, file2);

        }

    }

    if(y==1)

    {

        printf("\n\nDeleted Successfully.");

    }

    else

    {

        printf("\n\nRecord Not Found !");

    }

    fclose(file);

    fclose(file2);

    remove("library.txt");

    rename("temp.txt", "library.txt");

}

void searchbook()

{

    file = fopen("library.txt","r");

    int id;

    printf("\nEnter the book ID: ");

    scanf("%d",&id);

    while(fread(&book,sizeof(book),1,file))

    {

        if(id==book.id)

        {

            fflush(stdin);

            fscanf(file,"%d\t%s\t%s\n",&book.id,book.name,book.author);

            printf("%d\t%s\t%s\n",book.id,book.name,book.author);

            fclose(file);

        }

    }

}

void addstudent()

{

    Student\_file = fopen("student.txt","a");

    printf("Student ID: ");

    fflush(stdin);

    scanf("%d",&student.id);

    printf("Student Name: ");

    fflush(stdin);

    gets(student.name);

    printf("Depertment: ");

    gets(student.depertment);

    fwrite(&student,sizeof(student),1,Student\_file);

    fclose(Student\_file);

}

void searchstudent()

{

    Student\_file = fopen("student.txt","r");

    int id;

    printf("\nEnter the Student ID: ");

    scanf("%d",&id);

    while(fread(&student,sizeof(student),1,Student\_file))

    {

        if(id==student.id)

        {

            printf("ID\tName\n");

            fflush(stdin);

            fscanf(Student\_file,"%d\t%s\t%s\n",&student.id,student.name,student.depertment);

            printf("%d\t%s\t%s\n",student.id,student.name,student.depertment);

            fclose(Student\_file);

        }

    }

}

void deletestudent()

{

    int id, p=0;

    printf("Enter Student id to remove: ");

    scanf("%d", &id);

    Student\_file = fopen("student.txt", "r");

    file3 = fopen("temp2.txt", "wb");

    while(fread(&student, sizeof(student), 1, Student\_file) == 1)

    {

        if(id == student.id)

        {

            p=1;

        }

        else

        {

            fwrite(&student, sizeof(student), 1, file3);

        }

    }

    if(p==1)

    {

        printf("\n\nDeleted Successfully.");

    }

    else

    {

        printf("\n\nRecord Not Found !");

    }

    fclose(Student\_file);

    fclose(file3);

    remove("student.txt");

    rename("temp2.txt", "student.txt");

}

void viewstudent()

{

    printf("Registered Student\n");

    Student\_file = fopen("Student.txt", "r");

    printf("ID\tName\tDepertment\n");

    while(fread(&student,sizeof(student),1,Student\_file))

    {

        fflush(stdin);

        printf("%d\t%s\t%s\n",student.id,student.name,student.depertment);

    }

    fclose(Student\_file);

}

void main()

{

    printf("\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Welcome to the library management system \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

    password();

    while(1)

    {

        printf("\n\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*Main Menu\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

        printf("\t\t 0. Exit\n");

        printf("\t\t 1. Add Book\n");

        printf("\t\t 2. View Book\n");

        printf("\t\t 3. Issue Book\n");

        printf("\t\t 4. Issued Book\n");

        printf("\t\t 5. Search Book\n");

        printf("\t\t 6. Delete Book\n");

        printf("\t\t 7. Add Student\n");

        printf("\t\t 8. View Student\n");

        printf("\t\t 9. Search Student\n");

        printf("\t\t 10. Delete Student\n");

        printf("\n\t\tEnter Your Choice:  ");

        int num;

        scanf(" %d",&num);

        switch(num)

        {

            case 0:

                exit(1);

            case 1:

                addbook();

                break;

            case 2:

                viewbook();

                break;

            case 3:

                issuebook();

                break;

            case 4:

                issuedbook();

                break;

            case 5:

                searchbook();

                break;

            case 6:

                deletebook();

                break;

            case 7:

                addstudent();

                break;

            case 8:

                viewstudent();

                break;

            case 9:

                searchstudent();

                break;

            case 10:

                deletestudent();

                break;

            default:

                printf("\nInvalid\n");

                break;

        }

        printf("\nPress any key to continue");

        getchar();

    }

}