图书管理系统

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <stdbool.h>

typedef struct book {

char bookname[50];

char name[8];

double price;

} stu;

typedef struct people {

char name[20];

int age;

char sex[4];

char tell[20];

char lendbook;

} peo;

// 定义书籍结构体

typedef struct {

char title[100];

char author[100];

int isBorrowed; // 0表示未借出，1表示已借出

} Book;

// 定义借阅记录结构体（简单示例，只记录书名和借阅人）

typedef struct {

char bookTitle[100];

char borrower[100];

} BorrowRecord;

// 书籍列表（简单示例，使用数组）

Book books[100];

int bookCount = 0;

// 借阅记录列表（简单示例，使用数组）

BorrowRecord borrowRecords[100];

int borrowCount = 0;

// 添加书籍

void addBook(const char \*title, const char \*author) {

if (bookCount >= 100) {

printf("书库已满，无法添加新书！\n");

return;

}

strcpy(books[bookCount].title, title);

strcpy(books[bookCount].author, author);

books[bookCount].isBorrowed = 0;

bookCount++;

printf("书籍 %s 已添加。\n", title);

}

// 借阅书籍

void borrowBook() {

char title[20];

char borrower[20];

printf("请输入要借的书名：");

scanf("%s",title);

printf("请输入借书人的名字：");

scanf("%s",title);

for (int i = 0; i < bookCount; i++) {

if (strcmp(books[i].title, title) == 0 && books[i].isBorrowed == 0) {

books[i].isBorrowed = 1;

strcpy(borrowRecords[borrowCount].bookTitle, title);

strcpy(borrowRecords[borrowCount].borrower, borrower);

borrowCount++;

printf("书籍 %s 已借出给 %s。\n", title, borrower);

return;

}

}

printf("未找到书籍 %s 或该书籍已借出。\n", title);

}

// 还书

void returnBook() {

char title[20];

printf("请输入要还的书名：");

scanf("%s",title);

for (int i = 0; i < bookCount; i++) {

if (strcmp(books[i].title, title) == 0 && books[i].isBorrowed == 1) {

books[i].isBorrowed = 0;

printf("书籍 %s 已归还。\n", title);

return;

}

}

printf("未找到书籍 %s 或该书籍未被借出。\n", title);

}

//

//// 显示所有书籍信息

//void showBooks() {

// printf("书籍列表：\n");

// for (int i = 0; i < bookCount; i++) {

// printf("书名: %s, 作者: %s, 状态: %s\n", books[i].title, books[i].author, books[i].isBorrowed ? "已借出" : "未借出");

// }

//}

void creatbook(){

stu s;

FILE \*fp=fopen("D:\\桌面\\book.txt","w");

if (fp == NULL) {

printf("无法打开文件\n");

}

printf("请输入书名：");

scanf("%s",s.bookname);

printf("请输入作者名称：");

scanf("%s",s.name);

printf("请输入书的定价：");

scanf("%lf",&s.price);

fprintf(fp, "%s %s %lf\n", s.bookname, s.name,s.price);

fclose(fp);

printf("创建图书成功！\n");

}

void deletebook(){

FILE \*fp, \*ft;

char BookName[50];

char line[1024];

printf("请输入要删除的图书书名：");

scanf("%49s", BookName);

fp = fopen("D:\\桌面\\book.txt", "rt");

ft = fopen("D:\\桌面\\temp.txt", "wt");

if(fp == NULL || ft == NULL){

printf("错误！无法打开文件。\n");

return;

}

while(fgets(line, sizeof(line), fp)){

if(strstr(line, BookName) == NULL){

fputs(line, ft);

}

}

fclose(fp);

fclose(ft);

remove("D:\\桌面\\book.txt");

rename("D:\\桌面\\book.txt","D:\\桌面\\temp.txt");

rename("D:\\桌面\\temp.txt","D:\\桌面\\book.txt");

printf("图书信息删除成功！\n");

}

void addbook(){

stu s;

FILE \*fp=fopen("D:\\桌面\\book.txt","a");

if (fp == NULL) {

perror("打开文件失败");

}

printf("请输入书名：");

scanf("%s",s.bookname);

printf("请输入作者名称：");

scanf("%s",s.name);

printf("请输入书的定价：");

scanf("%lf",&s.price);

fprintf(fp, "%s %s %lf\n", s.bookname, s.name,s.price);

fclose(fp);

printf("信息已成功添加！\n");

}

void bookname\_search() {

FILE \*fp = fopen("D:\\桌面\\book.txt", "r");

char line[1024];

char name\_to\_find[50];

int found = 0;

if (fp == NULL) {

perror("打开文件失败！");

return;

}

printf("请输入要查询的图书名字: ");

scanf("%49s", name\_to\_find);

while (fgets(line, sizeof(line), fp)) {

line[strcspn(line, "\n")] = 0;

if (strstr(line, name\_to\_find) != NULL) {

printf("查询的图书信息如下\n");

printf("%s\n", line);

found = 1;

}

}

if (!found) {

printf("未找到与输入匹配的图书信息。\n");

}

fclose(fp);

}

void name\_search() {

FILE \*fp = fopen("D:\\桌面\\book.txt", "r");

char line[1024];

char name\_to\_find[50];

int found = 0;

if (fp == NULL) {

perror("打开文件失败！");

return;

}

printf("请输入要查询的图书的作者: ");

scanf("%49s", name\_to\_find);

while (fgets(line, sizeof(line), fp)) {

line[strcspn(line, "\n")] = 0;

if (strstr(line, name\_to\_find) != NULL) {

printf("查询的图书信息如下\n");

printf("%s\n", line);

found = 1;

}

}

if (!found) {

printf("未找到与输入匹配的图书作者信息。\n");

}

fclose(fp);

}

void creakpeople(){

peo p;

FILE \*fp=fopen("D:\\桌面\\people.txt","a");

if (fp == NULL) {

printf("无法打开文件\n");

}

printf("请输入读者姓名：");

scanf("%s",p.name);

printf("请输入读者年龄：");

scanf("%d",&p.age);

printf("请输入读者性别：");

scanf("%s",p.sex);

printf("请输入读者电话：");

scanf("%s",p.tell);

fprintf(fp, "%s %d %s %s\n", p.name,p.age,p.sex,p.tell);

fclose(fp);

printf("读者创建成功！\n");

}

void alterpeople() {

FILE \*fp = fopen("D:\\桌面\\people.txt", "r");

FILE \*fp\_tmp = fopen("D:\\桌面\\people\_tmp.txt", "w"); // 临时文件

char line[1024];

char name\_to\_find[50];

char new\_record[1000];

int found = 0;

if (fp == NULL || fp\_tmp == NULL) {

perror("打开文件失败！");

if (fp\_tmp != NULL) fclose(fp\_tmp);

return;

}

printf("请输入要修改的读者信息的名字：");

scanf("%49s", name\_to\_find);

while (getchar() != '\n');

while (fgets(line, sizeof(line), fp)) {

if (strstr(line, name\_to\_find) == line) {

found = 1;

printf("请输入新的读者信息（姓名 年龄 性别 电话）：");

if (fgets(new\_record, sizeof(new\_record), stdin)) {

fputs(new\_record, fp\_tmp);

}

} else {

fputs(line, fp\_tmp);

}

}

if (!found) {

printf("未找到与输入匹配的读者信息。\n");

} else {

printf("读者信息已修改。\n");

}

fclose(fp);

fclose(fp\_tmp);

remove("D:\\桌面\\people.txt"); // 删除原文件

rename("D:\\桌面\\people\_tmp.txt", "D:\\桌面\\people.txt"); // 重命名临时文件为原文件名

}

void show() {

int choose;

while(choose){

printf("==============================\n");

printf("\t欢迎来到图书管理系统\n");

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\t图书管理\n");

printf("==============================\n");

printf("\t1.创建图书信息\n");

printf("\t2.删除图书\n");

printf("\t3.增添图书\n");

printf("\t4.按名称查询图书\n");

printf("\t5.按作者查询图书\n");

printf("\t6.创建读者信息\n");

printf("\t7.修改读者信息\n");

printf("==============================\n");

printf("\t借书和还书管理\n");

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("\t8.借书\n");

printf("\t9.还书\n");

printf("\t0.退出系统\n");

printf("==============================\n");

printf("您好，请输你的选择!(1,2,3,4,5,6,7,8,9,0):");

scanf("%d",&choose);

switch(choose)

{

case 1: creatbook();

break;

case 2: deletebook();

break;

case 3: addbook();

break;

case 4: bookname\_search();

break;

case 5: name\_search();

break;

case 6: creakpeople();

break;

case 7: alterpeople();

break;

case 8: borrowBook();

break;

case 9: returnBook();

break;

case 0:

break;

default: printf("输入错误！请重新选择！");

break;

}

}

}

int main() {

show();

return 0;

}