#include <stdio.h>

#include <string.h>

#include <stdlib.h>

typedef struct {

int seatNumber;

int isBooked;

char bookedBy[50];

} Seat;

Seat seats[20]; // Array to store seat availability (20 seats)

int totalSeats = 20;

// Global variable to track login state

int loggedIn = 0; // 0 = Not logged in, 1 = Logged in

char currentUser[50]; // To store the currently logged-in user's username

// Function Prototypes

void registration();

int login();

void viewSeats();

void bookTicket();

void payment();

void displayBookingDetails();

void exitProgram();

int main() {

int choice;

printf("Welcome to the Bus Ticket Reservation System!\n");

while (1) {

printf("\n1. Register\n2. Login\n3. View Available Seats\n4. Book Ticket\n5. Payment\n6. Display Booking Details\n7. Exit\n");

printf("Choose an option: ");

scanf("%d", &choice);

switch (choice) {

case 1:

registration();

break;

case 2:

if (login()) {

loggedIn = 1; // Set login status to true

printf("Login successful! Welcome, %s\n", currentUser);

} else {

printf("Invalid username or password.\n");

}

break;

case 3:

viewSeats();

break;

case 4:

if (!loggedIn) {

printf("You must log in first to book a ticket.\n");

} else {

bookTicket();

}

break;

case 5:

if (!loggedIn) {

printf("You must log in first to make a payment.\n");

} else {

payment();

}

break;

case 6:

if (!loggedIn) {

printf("You must log in first to view booking details.\n");

} else {

displayBookingDetails();

}

break;

case 7:

exitProgram();

return 0;

default:

printf("Invalid option. Try again.\n");

}

}

}

// Function Definitions

void registration() {

FILE \*fp;

char username[50], password[50];

printf("Enter username: ");

scanf("%s", username);

printf("Enter password: ");

scanf("%s", password);

fp = fopen("users.txt", "a");

if (fp == NULL) {

printf("Error opening file.\n");

return;

}

fprintf(fp, "%s %s\n", username, password);

fclose(fp);

printf("Registration successful!\n");

}

int login() {

FILE \*fp;

char username[50], password[50], fileUser[50], filePass[50];

printf("Enter username: ");

scanf("%s", username);

printf("Enter password: ");

scanf("%s", password);

fp = fopen("users.txt", "r");

if (fp == NULL) {

printf("No registered users found.\n");

return 0;

}

while (fscanf(fp, "%s %s", fileUser, filePass) != EOF) {

if (strcmp(username, fileUser) == 0 && strcmp(password, filePass) == 0) {

fclose(fp);

strcpy(currentUser, username); // Store the logged-in user's name

return 1;

}

}

fclose(fp);

return 0;

}

void viewSeats() {

printf("Available seats:\n");

for (int i = 1; i <= totalSeats; i++) {

if (!seats[i - 1].isBooked) {

printf("Seat %d is available\n", i);

} else {

printf("Seat %d is booked by %s\n", i, seats[i - 1].bookedBy);

}

}

}

void bookTicket() {

int seatNumber;

printf("Enter seat number to book (1-%d): ", totalSeats);

scanf("%d", &seatNumber);

if (seatNumber < 1 || seatNumber > totalSeats) {

printf("Invalid seat number.\n");

return;

}

if (seats[seatNumber - 1].isBooked) {

printf("Seat is already booked.\n");

} else {

seats[seatNumber - 1].isBooked = 1;

strcpy(seats[seatNumber - 1].bookedBy, currentUser);

printf("Seat %d booked successfully by %s!\n", seatNumber, currentUser);

}

}

void payment() {

printf("Processing payment...\n");

printf("Payment successful!\n");

}

void displayBookingDetails() {

printf("Booking details for %s:\n", currentUser);

int found = 0;

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

if (seats[i].isBooked && strcmp(seats[i].bookedBy, currentUser) == 0) {

printf("Seat %d\n", i + 1);

found = 1;

}

}

if (!found) {

printf("No bookings found.\n");

}

}

void exitProgram() {

printf("Thank you for using the Bus Ticket Reservation System. Goodbye!\n");

}