3.Ticket booking and payment processing

#include<stdio.h>

#include<string.h>

#include<stdlib.h>

typedef struct {

    char name[50];

    int age;

    char contact[15];

    char travel\_date[15];

    char bus\_type[20];

    float ticket\_price;

} Passenger;

typedef struct {

    char payment\_method[20];

    float amount;

    char transaction\_id[20];

} Payment;

float calculate\_ticket\_price(char bus\_type[]) {

    if (strcmp(bus\_type, "AC") == 0)

        return 500.0;

    else if (strcmp(bus\_type, "Sleeper") == 0)

        return 700.0;

    else

        return 300.0; // Default price for normal bus

}

void book\_ticket(Passenger \*p) {

    printf("Enter Passenger Name: ");

    scanf(" %s", p->name);

    printf("Enter Age: ");

    scanf("%d", &p->age);

    printf("Enter Contact Number: ");

    scanf("%s", p->contact);

    printf("Enter Travel Date (DD/MM/YYYY): ");

    scanf("%s", p->travel\_date);

    printf("Enter Bus Type (AC/Sleeper/Normal): ");

    scanf("%s", p->bus\_type);

    p->ticket\_price = calculate\_ticket\_price(p->bus\_type);

    printf("Ticket Price: %.2f\n", p->ticket\_price);

}

void process\_payment(Payment \*pay, float amount) {

    printf("Enter Payment Method (Card/UPI/Cash): ");

    scanf("%s", pay->payment\_method);

    pay->amount = amount;

    printf("Enter Transaction ID: ");

    scanf("%s", pay->transaction\_id);

    printf("Payment of %.2f successful via %s.\n", pay->amount, pay->payment\_method);

}

    void display\_ticket(Passenger p, Payment pay) {

        printf("\n---- Ticket Confirmation ----\n");

        printf("Passenger: %s\nAge: %d\nContact: %s\nTravel Date: %s\nBus Type: %s\nTicket Price: %.2f\n",

               p.name, p.age, p.contact, p.travel\_date, p.bus\_type, p.ticket\_price);

        printf("Payment: %s (Transaction ID: %s) - Amount: %.2f\n", pay.payment\_method, pay.transaction\_id, pay.amount);

    }

    void cancel\_ticket(Passenger \*p) {

        printf("\nCancelling ticket for %s...\n", p->name);

        printf("Refund of %.2f initiated.\n", p->ticket\_price \* 0.9); // 90% refund policy

    }

    int main() {

        Passenger p;

        Payment pay;

        int choice;

        while (1) {

            printf("\n1. Book Ticket\n2. Cancel Ticket\n3. Exit\nChoose an option: ");

            scanf("%d", &choice);

            switch (choice) {

                case 1:

                    book\_ticket(&p);

                    process\_payment(&pay, p.ticket\_price);

                    display\_ticket(p, pay);

                    break;

                case 2:

                    cancel\_ticket(&p);

                    break;

                case 3:

                    exit(0);

                default:

                    printf("Invalid choice! Try again.\n");

            }

        }

        return 0;

    }

1.Bus seat allocation system

#include <stdio.h>

#define MAX\_SEATS 5

typedef struct {

char name[50];

int age;

char contact[15];

int booked;

} Passenger;

Passenger seats[MAX\_SEATS];

void bookSeat() {

int seat;

printf("Enter seat number (1-%d): ", MAX\_SEATS);

scanf("%d", &seat);

if (seat < 1 || seat > MAX\_SEATS || seats[seat - 1].booked) {

printf("Invalid seat or seat already booked!\n");

return;

}

printf("Enter name: ");

scanf("%s", seats[seat - 1].name);

printf("Enter age: ");

scanf("%d", &seats[seat - 1].age);

printf("Enter contact number: ");

scanf("%s", seats[seat - 1].contact);

seats[seat - 1].booked = 1;

printf("Seat booked successfully!\n");

}

void cancelSeat() {

int seat;

printf("Enter seat number to cancel (1-%d): ", MAX\_SEATS);

scanf("%d", &seat);

if (seat < 1 || seat > MAX\_SEATS || !seats[seat - 1].booked) {

printf("Invalid seat or seat not booked!\n");

return;

}

seats[seat - 1].booked = 0;

printf("Seat %d cancelled successfully!\n", seat);

}

void displaySeats() {

printf("\nBooked Seats:\n");

int booked\_count = 0;

for (int i = 0; i < MAX\_SEATS; i++) {

if (seats[i].booked) {

printf("Seat %d: %s, Age: %d, Contact: %s\n", i + 1, seats[i].name, seats[i].age, seats[i].contact);

booked\_count++;

}

}

if (booked\_count == 0) {

printf("No seats are booked.\n");

}

}

int main() {

int choice;

for (int i = 0; i < MAX\_SEATS; i++) {

seats[i].booked = 0;

}

do {

printf("\nBus Seat Booking System\n");

printf("1. Book a seat\n");

printf("2. Cancel a seat\n");

printf("3. Display booked seats\n");

printf("4. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

if (choice == 1) {

bookSeat();

} else if (choice == 2) {

cancelSeat();

} else if (choice == 3) {

displaySeats();

} else if (choice == 4) {

printf("Exiting the system.\n");

} else {

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

}

} while (choice != 4);

return 0;

}