//C program for hotel reservation system

#include <stdio.h>

#include <stdbool.h>

#define MAX\_ROOMS 10

struct Room {

int roomNumber;

bool isOccupied;

};

struct Hotel {

struct Room rooms[MAX\_ROOMS];

};

void initializeHotel(struct Hotel\* hotel) {

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

hotel->rooms[i].roomNumber = i + 1;

hotel->rooms[i].isOccupied = false;

}

}

void displayRooms(struct Hotel\* hotel) {

printf("ROOMS STATUS:\n");

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

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

printf("Room %d: %s\n", hotel->rooms[i].roomNumber, hotel->rooms[i].isOccupied ? "Occupied" : "Vacant");

}

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

}

void reserveRoom(struct Hotel\* hotel) {

int roomNumber;

printf("Enter the room number you want to reserve: ");

scanf("%d", &roomNumber);

if (roomNumber < 1 || roomNumber > MAX\_ROOMS) {

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

return;

}

if (hotel->rooms[roomNumber - 1].isOccupied) {

printf("Room %d is already occupied.\n", roomNumber);

} else {

hotel->rooms[roomNumber - 1].isOccupied = true;

printf("Room %d has been reserved.\n", roomNumber);

}

}

void cancelReservation(struct Hotel\* hotel) {

int roomNumber;

printf("Enter the room number you want to cancel the reservation for: ");

scanf("%d", &roomNumber);

if (roomNumber < 1 || roomNumber > MAX\_ROOMS) {

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

return;

}

if (hotel->rooms[roomNumber - 1].isOccupied) {

hotel->rooms[roomNumber - 1].isOccupied = false;

printf("Reservation for Room %d has been canceled.\n", roomNumber);

} else {

printf("Room %d is not currently reserved.\n", roomNumber);

}

}

int main() {

struct Hotel hotel;

initializeHotel(&hotel);

int choice;

while (1) {

printf("\nHOTEL RESERVATION SYSTEM\n");

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

printf("1. Display Rooms\n");

printf("2. Reserve a Room\n");

printf("3. Cancel Reservation\n");

printf("4. Exit\n");

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

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1:

displayRooms(&hotel);

break;

case 2:

reserveRoom(&hotel);

break;

case 3:

cancelReservation(&hotel);

break;

case 4:

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

return 0;

default:

printf("Invalid choice. Please enter a valid option.\n");

}

}

return 0;

}