#include <iostream>

#include <cstring>

#include <iomanip>

using namespace std;

const int MAX\_ROOMS = 10;

int booked\_rooms = 0;

struct room {

    int room\_number;

    char guest\_name[20];

    int days\_stayed;

};

room hotel\_rooms[MAX\_ROOMS];

void display\_available\_rooms() {

    cout << "Available rooms: ";

    for(int i=0; i<MAX\_ROOMS; i++) {

        if(hotel\_rooms[i].room\_number == 0) {

            cout << i+1 << " ";

        }

    }

    cout << endl;

}

void book\_room() {

    if(booked\_rooms == MAX\_ROOMS) {

        cout << "All rooms are booked." << endl;

        return;

    }

    int room\_number;

    cout << "Enter room number to book (1-" << MAX\_ROOMS << "): ";

    cin >> room\_number;

    if(room\_number < 1 || room\_number > MAX\_ROOMS) {

        cout << "Invalid room number." << endl;

        return;

    }

    if(hotel\_rooms[room\_number-1].room\_number != 0) {

        cout << "This room is already booked." << endl;

        return;

    }

    room new\_booking;

    new\_booking.room\_number = room\_number;

    cout << "Enter guest name: ";

    cin >> new\_booking.guest\_name;

    cout << "Enter days stayed: ";

    cin >> new\_booking.days\_stayed;

    hotel\_rooms[room\_number-1] = new\_booking;

    booked\_rooms++;

    cout << "Room " << room\_number << " booked successfully." << endl;

}

void display\_bookings() {

    cout << setw(15) << left << "Room Number" << setw(15) << left << "Guest Name" << setw(15) << left << "Days Stayed" << endl;

    for(int i=0; i<MAX\_ROOMS; i++) {

        if(hotel\_rooms[i].room\_number != 0) {

            cout << setw(15) << left << hotel\_rooms[i].room\_number << setw(15) << left << hotel\_rooms[i].guest\_name << setw(15) << left << hotel\_rooms[i].days\_stayed << endl;

        }

    }

}

int main() {

    int choice;

    while(true) {

        cout << "1. Book a room\n2. View available rooms\n3. Display bookings\n4. Quit\nEnter choice: ";

        cin >> choice;

        switch(choice) {

            case 1:

                book\_room();

                break;

            case 2:

                display\_available\_rooms();

                break;

            case 3:

                display\_bookings();

                break;

            case 4:

                return 0;

            default:

                cout << "Invalid choice." << endl;

                break;

        }

    }

    return 0;

}