S.No: 1	Exp. Name: *Project Module*	Date: 2024-06-13

Aim:

Project Module

Source Code:

```
hello.c
```

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

typedef struct User {
    char username[50], password[50];
    struct User* next;
} User;

typedef struct Movie {
    int id, availableSeats;
    char name[100], genre[50];
    struct Movie* next;
} Movie;

typedef struct Booking {
    int bookingId, movieId, seatsBooked;
    char username[50];
    struct Booking* next;
} Booking;

User *userHead = NULL;
Movie *movieHead = NULL;
Booking *bookingHead = NULL;
int bookingCount = 0;

void flushInput() {
    int c;
    while ((c = getchar()) != '\n' && c != EOF);
}

void registerUser() {
    User* newUser = (User*)malloc(sizeof(User));
    printf("Enter username: ");
    scanf("%49s", newUser->username);
    for (User* temp = userHead; temp; temp = temp->next) {
        if (!strcmp(temp->username, newUser->username)) {
            printf("Username exists!\n");
            free(newUser);
            return;
        }
    }
    printf("Enter password: ");
    scanf("%49s", newUser->password);
    newUser->next = userHead;
    userHead = newUser;
    printf("User registered successfully!\n");
}

void loginUser() {
    char username[50], password[50];
    printf("Enter username: ");
    scanf("%49s", username);
    printf("Enter password: ");
    scanf("%49s", password);
```

```c
            printf("Login successful!\n");
            return;
        }
    }
    printf("Invalid username or password!\n");
}

void viewMovies() {
    if (!movieHead) {
        printf("No movies available.\n");
        return;
    }
    for (Movie* temp = movieHead; temp; temp = temp->next) {
        printf("Movie ID: %d\nName: %s\nGenre: %s\nAvailable Seats: %d\n\n", temp->id, temp->name, temp->genre, temp->availableSeats);
    }
}

void viewAvailableTickets() {
    if (!movieHead) {
        printf("No movies available.\n");
        return;
    }
    printf("Available tickets for each movie:\n");
    for (Movie* temp = movieHead; temp; temp = temp->next) {
        printf("Movie ID: %d\nName: %s\nAvailable Seats: %d\n\n", temp->id, temp->name, temp->availableSeats);
    }
}

void bookTicket() {
    char username[50];
    int movieId, seatsBooked;
    printf("Enter username: ");
    scanf("%49s", username);
    printf("Enter movie ID: ");
    scanf("%d", &movieId);
    printf("Enter number of seats: ");
    scanf("%d", &seatsBooked);

    Movie* selectedMovie = NULL;
    for (Movie* movie = movieHead; movie; movie = movie->next) {
        if (movie->id == movieId) {
            selectedMovie = movie;
            break;
        }
    }

    if (selectedMovie == NULL) {
        printf("Movie ID not found!\n");
        return;
    }

    if (selectedMovie->availableSeats >= seatsBooked) {
        Booking* newBooking = (Booking*)malloc(sizeof(Booking));
```

```c
            newBooking->movieId = movieId;
            newBooking->seatsBooked = seatsBooked;
            newBooking->next = bookingHead;
            bookingHead = newBooking;
            selectedMovie->availableSeats -= seatsBooked;
            printf("Booking successful! Your booking ID is %d\n", bookingCount);
        } else {
            printf("Booking failed! Not enough available seats.\n");
        }
}

void validateEntry() {
    int bookingId;
    printf("Enter booking ID: ");
    scanf("%d", &bookingId);
    for (Booking* booking = bookingHead; booking; booking = booking->next) {
        if (booking->bookingId == bookingId) {
            printf("Entry validated successfully!\n");
            return;
        }
    }
    printf("Invalid booking ID!\n");
}

void initializeMovies() {
    // Example movies
    Movie* movie1 = (Movie*)malloc(sizeof(Movie));
    movie1->id = 1;
    strcpy(movie1->name, "The Shawshank Redemption");
    strcpy(movie1->genre, "Drama");
    movie1->availableSeats = 100;
    movie1->next = NULL;

    Movie* movie2 = (Movie*)malloc(sizeof(Movie));
    movie2->id = 2;
    strcpy(movie2->name, "The Godfather");
    strcpy(movie2->genre, "Crime");
    movie2->availableSeats = 100;
    movie2->next = NULL;

    Movie* movie3 = (Movie*)malloc(sizeof(Movie));
    movie3->id = 3;
    strcpy(movie3->name, "The Dark Knight");
    strcpy(movie3->genre, "Action");
    movie3->availableSeats = 100;
    movie3->next = NULL;

    // Link the movies
    movie1->next = movie2;
    movie2->next = movie3;
    movieHead = movie1;
}

int main() {
    initializeMovies(); // Initialize movies here
```

```c
        printf("\nMovie Ticket Sales and Theater Entry Management System\n");
        printf("1. Register\n2. Login\n3. View Movies\n4. Book Ticket\n5. View Available
Tickets\n6. Validate Entry\n7. Exit\nEnter your choice: ");
        if (scanf("%d", &choice) != 1) {
            printf("Invalid input! Please enter a number.\n");
            flushInput();
            continue;
        }
        switch (choice) {
            case 1:
                registerUser();
                break;
            case 2:
                loginUser();
                break;
            case 3:
                viewMovies();
                break;
            case 4:
                bookTicket();
                break;
            case 5:
                viewAvailableTickets();
                break;
            case 6:
                validateEntry();
                break;
            case 7:
                exit(0);
            default:
                printf("Invalid choice!\n");
        }
    }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Hello World