

Application For Hotel Management (SyncStays)

Need to prepare a console application for hotel room booking details tracking.

The application should allow to do below process

Main Menu:

- 1. User Registration**
- 2. User Login**
- 3. Exit**

1. User Registration:

On selection of the “User Registration” option from the main menu,

1. Need to get the below details from user for the user registration.
 - a. Username
 - b. Mobile Number
 - c. Aadhar Number
 - d. Address
 - e. Food type
 - f. Gender
 - g. WalletBalance
2. On completion of the user registration, we need to display the user Id (auto generated UserID).

2. User Login

On selection of the “User Login” option from the main menu,

- Ask for the “User ID” of the user. Check the “User ID” in the user list.
- If the User ID does not exist, display “Invalid User Id. Please enter valid one”.
- If User ID exist show the below sub menu
 - a. View Customer Profile**
 - b. Book Room**
 - c. Modify Booking**
 - d. Cancel Booking**
 - e. Booking History**
 - f. Wallet Recharge**
 - g. Show WalletBalance**
 - h. Exit**

a. View Customer Profile

Show all the details of the current user using the method.

b. Book Room

1. Create temporary booking object whose UserID is currentUserID, TotalAmount 0, Bookingdate Now, Status as initiated.
2. Create temporary local room selection list to hold the room selection objects up to booking completion.
3. Need to show the list of available room types by traversing the Room Details list.
4. Need to ask the user to enter DateFrom (Date and Time) and DateTo (Date and Time), RoomID & no. Of Days of booking.
5. Based on the data need to check the room is already booked or not by traversing room selection list. If it is not booked means Create Room Selection object and add it to local room selection list.
6. Ask the user whether he want to book another room. If “yes” means repeat step 3 to 5 to create new selection object and add it to local list.
7. If user says “No” means calculate the total rent amount of that selected rooms modify the booking object details and status as booked.
8. Check the user has enough balance. If he has enough balance Add the local temp room selection to global list. Add the booking object to booking list. And show rooms successfully booked Your booking ID – BID101.
9. If user don't have enough balance, ask the user whether he want to proceed booking after recharge. If he says no then Show Exiting without booking rooms.
10. If he says yes means show the amount to be recharged for continue booking (Total Booking Amount). Recharge with user provided amount and go to step 8 to proceed booking.

c. Modify Booking

- Need to show the current user's booking history whose booking status is **Booked** by traversing the booking details list and need to ask the user to pick a bookingID.
- Check whether the booking ID present in booking details and its status is **Booked**.
- Traverse the selection list and check the Booking ID present in selection list and the selection status is **Booked**.
- Show the selection list details of that booking ID and ask the user to enter selection ID.
- Validate the selection ID present in the selection list and its belong to current user and current booking ID.
- Ask the user to select option
 1. **Cancel selected room**
 2. **Add new room**

If the user selects

i. Cancel selected room

1. If the user enter this option means return the selected room amount to user, deduct the amount from booking and change the status of selection entry to **Cancelled**.
2. Show "Selected room cancelled from your booking".

ii. Add new room

1. Show the list of available rooms in from the room details and ask the user to enter room ID and check in and out date and time.
2. Ask the user to enter number of days room is required.
3. Check the selected room is available on that date and time by checking in the room selection list.
4. If the room is available means then calculate amount.
5. Check the user has enough balance. If he has means deduct the amount from user.
6. Add the amount to booking details.
7. Create selection object based on provided details and its status as Booked and add to the booking list.
8. Show "Booking modified successfully".
9. If he don't have enough balance means show "Please recharge {Rs. The above selected amount} before adding new room".

d. **Cancel Booking**

- Need to show the current user's booking history whose booking status is **Booked** by traversing the booking details list and need to ask the user to pick a bookingID.
- Need to validate the id is present and need to change the status of booking to Cancelled and return the booking amount to current user's wallet.
- Change the booking status of selection list details of that corresponding bookingID from Booked to cancelled.

e. **Booking history**

Need to show the current user's booking history by traversing the booking details list and need to ask the user to pick a booking ID and based on that show the details of rooms booked by traversing room selection list.

f. **Wallet Recharge**

Ask the user to enter amount to recharge and recharge the wallet balance with the amount and show the current balance of user.

g. **Show Wallet Balance**

Display the user's wallet balance.

h. **Exit**

Exit from submenu and go to the main menu.

3. Exit

Exit main menu Close the application

PersonalDetails Class:

Properties:

- UserName
- MobileNumber
- AadharNumber
- Address
- FoodType (Enum – Veg, NonVeg)
- Gender (Enum- Male, Female, Transgender)

IWalletManager Interface:

Properties: WalletBalance

Method: WalletRecharge, DeductBalance

User Registration Class inherits Personal Details, IWalletManager

User Registration Class should have below properties and methods.

Field: _balance

Properties:

- a. UserID (Auto Incremented – SF1001)
- b. WalletBalance

Method: WalletRecharge, DeductBalance

Default User Details:

UserID	UserName	Mobile Number	Aadhar Number	Address	Food type	Gender	WalletBalance
SF1001	Ravichandran	995875777	347777378383	Chennai	Veg	Male	5000
SF1002	Baskaran	448844848	474777477477	Chennai	NonVeg	Male	6000

RoomDetailsClass:

Properties:

- RoomID (Auto Increment – RID101)
- RoomType (Enum – Standard, Delux, Suit)
- NumberOfBeds
- PricePerDay

RoomID	RoomType	NumberOfBeds	PricePerDay
RID101	Standard	2	500
RID102	Standard	4	700
RID103	Standard	2	500
RID104	Standard	2	500
RID105	Standard	2	500
RID106	Delux	2	1000
RID107	Delux	2	1000
RID108	Delux	4	1400
RID109	Delux	4	1400
RID110	Suit	2	2000
RID111	Suit	2	2000
RID112	Suit	2	2000
RID113	Suit	4	2500

RoomSelectionClass:

Room Selection Class should have below properties.

Properties:

- SelectionID (Auto increment-SID1001)
- RoomID
- BookingID
- StayingDateFrom
- StayingDateTo
- Price
- NumberOfDays
- BookingStatus (Default, Initiated, Booked, Cancelled)

Default Selection Details:

SelectionID	BookingID	RoomID	StayingDateFrom	StayingDateTo	Price	NumberOfDays	BookingStatus
SID1001	BID101	RID101	11/11/2022 06:00 AM	12/11/2022 2:00PM	750	1.5	Booked
SID1002	BID101	RID102	11/11/2022 10:00 AM	12/11/2022 9:00 AM	700	1	Booked
SID1003	BID102	RID103	12/11/2022 9:00 AM	13/11/2022 09:00 AM	500	1	Cancelled

SID1004	BID102	RID106	12/11/2022 06:00 AM	13/11/2022 12:30PM	1500	1.5	Cancelled
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BookingDetailsClass:

BookingDetails Class should have below properties.

Properties:

- BookingID (Auto increment-BID101)
- UserID
- TotalPrice
- DateOfBooking
- BookingStatus (Default, Initiated, Booked, Cancelled)

Default BookingDetails Class:

BookingID	UserID	TotalPrice	DateOfBooking	BookingStatus
BID101	SF1001	1450	10/11/2022	Booked
BID102	SF1002	2000	10/11/2022	Cancelled