UML Diagram

Room

room_number: str
room_type: str
amenities: List[str]
price_per_night: float
is_available: bool

check_availability() -> bool
update_status(status: bool)

Guest

guest_id: str
name: str
contact_info: str
loyalty_status: str
reservation_history: List[Booking]

update_profile()
view_reservations()

ServiceRequest

request_id: str
guest: Guest
request_type: str
status: str

submit_request()
update_status()

Booking

booking_id: str
guest: Guest
room: Room
check_in: date
check_out: date
status: str

confirm_booking()
cancel_booking()

LoyaltyProgram

LoyaltyProgram
points: int

add_points()
redeem_rewards()
view_points()

Invoice

invoice_id: str
booking: Booking
nightly_rate: float
additional_charges: float
discount: float
total_amount: float

generate_invoice()

Review

review_id: str
guest: Guest
room: Room
rating: int
comment: str

submit_review()

Payment

payment_id: str
invoice: Invoice
payment_method: str
payment_status: str

process_payment()