🏨 Hotel Room Management - DRF API Task (Function-Based Views)

This task is for students who already know basic Django REST Framework (DRF) CRUD API development and understand Django model relationships. The goal is to create a Hotel Room Management system using Function-Based Views (FBVs). The system should support full CRUD operations with validations and allow tracking of bookings and room status.

# 1. Models Required

- Hotel: name, address, city, state, contact\_number

- Room: hotel (ForeignKey), room\_number, room\_type, price\_per\_night, is\_available (Boolean)

- Guest: name, mobile, email

- Booking: guest (ForeignKey), room (ForeignKey), check\_in, check\_out, total\_amount, status

# 2. API Functionality Required

- CRUD for Hotel, Room, Guest, Booking

- Room availability check before booking

- Automatically calculate total\_amount in booking (days x price\_per\_night)

- Mark room as unavailable when booked, and available after checkout

# 3. API Endpoints (Function-Based Views)

Implement the following endpoints:

- /api/hotels/ [GET, POST]

- /api/hotels/<id>/ [GET, PATCH, DELETE]

- /api/rooms/ [GET, POST]

- /api/rooms/<id>/ [GET, PATCH, DELETE]

- /api/guests/ [GET, POST]

- /api/guests/<id>/ [GET, PATCH, DELETE]

- /api/bookings/ [GET, POST]

- /api/bookings/<id>/ [GET, PATCH, DELETE]

# 4. Extra Instructions

- Use serializers for validation where required.

- Write clean, commented, and modular code.

- Use meaningful HTTP response codes and messages.

# 5. Bonus (Optional)

- Add search by hotel name, guest name, and room type.

- Filter available rooms between date ranges.