**Q: Hotel booking system - Design a class to manage hotel bookings, including room availability, reservations, and cancellations.**

**Approach to solve:**

1.Understand the problem statement clearly and find out the all the end points need to be created .

2.Figure out the proper datasturctures to manipulate the data in the api

3.Figure out the database design with proper list of tables and appropriate constraints to solve the problem.

**Pseudocode:**

**GET\_ROOM\_TYPES (HTTP GET method):**

Step 1: Create a database connection using the set\_connection() method. If it is created successfully, execute the SELECT query to fetch all the unique room types from the rooms table.

Step 2: Fetch the data using fetchall() method.

Step 3: Close all the connections and return the fetched data as a JSON response along with the status code 200.

GET\_ROOM\_AVAILABILITY (HTTP POST method):

Step 1: Extract the required data from the JSON payload.

Step 2: If the data format is not correct or room\_type is missing, display a message saying "Missing required field(s)".

Step 3: Create a database connection using the set\_connection() method. If it is created successfully, execute the SELECT query to count the number of available rooms for the provided room type.

Step 4: Fetch the count using fetchone() method.

Step 5: Close all the connections and return the fetched data as a JSON response along with the status code 200.

**CREATE\_BOOKING (HTTP POST method):**

Step 1: Extract the required data from the JSON payload.

Step 2: If the data format is not correct or any required field is missing, display a message saying "Missing required field(s)".

Step 3: Create a database connection using the set\_connection() method. If it is created successfully, execute the INSERT query to insert the booking data into the bookings table.

Step 4: Commit the transaction and close all the connections.

Step 5: Return a message saying "Booking created successfully" along with the status code 200.

**CANCEL\_BOOKING (HTTP DELETE method):**

Step 1: Create a database connection using the set\_connection() method. If it is created successfully, execute the SELECT query to fetch the booking data with the provided booking\_id.

Step 2: If the booking data is not found, raise a BookingNotFound exception.

Step 3: Execute the DELETE query to delete the booking record with the provided booking\_id.

Step 4: Commit the transaction and close all the connections.

Step 5: Return a message saying "Booking canceled successfully" along with the status code 200.