**Problem Statement 4:**

The following tables form part of a database held in a relational DBMS:

Hotel (HotelNo, Name, City) HotelNo is primary key

Room (RoomNo, HotelNo, Type, Price)

Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)

Guest (GuestNo, GuestName, GuestAddress) GuestNo is primary key

**Solve following queries by SQL**

**1)What is the total revenue per night from all double rooms?**

SELECT SUM(price) FROM room WHERE type = 'Double';

**2)List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.**

SELECT r.\* FROM room r LEFT JOIN

(SELECT g.guestname, h.hotelno, b.roomno FROM guest g, booking b, hotel h

WHERE g.guestno = b.guestno AND b.hotelno = h.hotelno AND

hotelname= 'GrosvenorHotel' AND

datefrom <= CURRENT\_DATE AND

dateto >= CURRENT\_DATE)

AS lmn

ON r.hotel\_num = lmn.hotelnum AND r.room\_num = lmn.roomnum;

SELECT r.\* FROM Room r LEFT JOIN (SELECT g.guestName, h.hotelNo, b.roomNo FROM Guest g, Booking b, Hotel h WHERE g.guestNo = b.guestNo AND b.hotelNo = h.hotelNo AND hotelName= ‘Grosvenor Hotel’ AND dateFrom <= CURRENT\_DATE AND dateTo >= CURRENT\_DATE) AS XXX ON r.hotelNo = XXX.hotelNo AND r.roomNo = XXX.roomNo;

SELECT r.\* FROM Room r LEFT JOIN (SELECT g.guestname, h.hotelno, b.roomno FROM Guest g, Booking b, Hotel h WHERE g.guestno = b.guestno AND b.hotelno = h.hotelno AND name='Grosvenor' AND datefrom <= CURRENT\_DATE AND dateto >= CURRENT\_DATE) AS XXX ON r.hotelno = XXX.hotelno AND r.roomno = XXX.roomno;

**3)What is the average number of bookings for each hotel in April?**

select avg(hotel\_no) from booking where (datefrom>date'2022-04-01' and dateto<date'2022-04-30');

**4)Create index on one of the field and show is performance in query.**

CREATE VIEW view1 AS

SELECT hotelno, hotelname FROM hotel where city='London';

select \* from view1;

**5)List full details of all hotels.**

select \* from hotel;

**6)List full details of all hotels in London.**

SELECT \* FROM hotel WHERE city = 'London';

**7)Update the price of all rooms by 5%.**

UPDATE room SET price= price + (price \* 5 / 100);

**8)List the number of rooms in each hotel in London.**

SELECT hotelno, COUNT(roomno) AS count FROM room r, hotel h

WHERE r.hotel\_num = h.hotelno AND city = 'London'

GROUP BY h.hotelno;

**9)List all double or family rooms with a price below £40.00 per night, in ascending order of price.**

select \* from room where type='Double' and price<40000;