

*** TA-5 QUERY PROCESSING ***

Author : Atharva Paliwal
Roll No : 40 [5B]
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PROBLEM STATEMENT:

The HotelBookings schema (described below) is held in a RDBMS. The schema depicts a chain of hotels for Maharaja Group of Hotels in the states of Maharashtra & Telangana.

Hotel (hotelNo, hotelName, inCity)

Room (roomNo, hotelNo, roomType, roomRent)

Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

Guest (guestNo, guestFirstName, guestLastName, guestHomeState)

Checked_In(guestNo, guestID, dateIn, roomNo, dateOut)

QUERY-SETS

Query 01 - List full details of all hotels in Nagpur.

SQL> SELECT * FROM Hotel
WHERE inCity='NAGPUR';

HOTELNO	HOTELNAME	INCITY	INSTATE
1	CONSULATE MGM NAGPUR	NAGPUR	MAHARASHTRA
2	AIRPORT MGM NAGPUR	NAGPUR	MAHARASHTRA
3	CONSULATE MGH NAGPUR	NAGPUR	MAHARASHTRA

Query 02 -List the names and addresses of all guests living in Nagpur, alphabetically ordered byname.

SQL> SELECT * FROM Guest
WHERE guestHomeState='MAHARASHTRA'
ORDER BY guestFirstName, guestLastName;

GUESTNO	GUESTFIRSTNAME	GUESTLASTNAME	GUESTHOMESTATE
4	AMBATI	RAYUDU	MAHARASHTRA
3	FAF	DUPLESSIS	MAHARASHTRA
19	HARBHAJAN	SINGH	MAHARASHTRA
10	LUNGI	NGIDI	MAHARASHTRA
16	PIYUSH	CHAWLA	MAHARASHTRA
2	RUTURAJ	GAIKWAD	MAHARASHTRA
18	SHARDUL	THAKUR	MAHARASHTRA
20	SURESH	RAINA	MAHARASHTRA

8 rows selected.

Query 03 - List all double or family rooms with a rent below 700.00 per night, in ascending order of rent.

```
SQL> SELECT * FROM Room
      WHERE roomType IN ('DOUBLE','FAMILY')
      AND roomRent < 700
      ORDER BY roomRent ASC;
```

ROOMNO	HOTELNO	ROOMTY	ROOMRENT
3	3	DOUBLE	590
4	1	DOUBLE	600
4	3	DOUBLE	600
3	6	DOUBLE	620
4	6	DOUBLE	620
4	2	DOUBLE	630
3	1	DOUBLE	650
5	1	FAMILY	675
3	2	DOUBLE	680

9 rows selected.

Query 04 - List the rent and type of all rooms at "Consulate MGM Nagpur".

```
SQL> SELECT Room.roomNo, Room.roomRent, Room.roomType
      FROM Hotel, Room
      WHERE Room.hotelNo=Hotel.hotelNo
            AND Hotel.hotelName='CONSULATE MGM NAGPUR';
```

ROOMNO	ROOMRENT	ROOMTY
1	400	SINGLE
2	500	SINGLE
3	650	DOUBLE
4	600	DOUBLE
5	675	FAMILY

Query 05- List all guests currently staying at hotels in Hyderabad who do not belong to Telangana.

```
SQL> SELECT Guest.guestNo, guestFirstName , guestLastName, hotelName,
      guestHomeState
      FROM Checked_In, Guest, Hotel
      WHERE Checked_In.hotelNo = Hotel.hotelNo AND
            Checked_In.guestNo = Guest.guestNo AND
            Hotel.inCity = 'HYDERABAD' AND
            Guest.guestHomeState NOT IN ('TELANGANA');
```

no rows selected.

Query 06 - List the rooms that are currently unoccupied at Hyderabad.

```
SQL> SELECT roomNo,roomType,roomRent
      FROM Room NATURAL JOIN Hotel
      WHERE roomNo NOT IN
            (SELECT roomNo
             FROM Checked_In NATURAL JOIN Hotel
              WHERE inCity = 'HYDERABAD') AND
            inCity = 'HYDERABAD';
```

ROOMNO	ROOMTY	ROOMRENT
1	SINGLE	450
2	SINGLE	430
3	DOUBLE	750
4	DOUBLE	780
5	FAMILY	1500
1	SINGLE	370
2	SINGLE	480
3	DOUBLE	800
4	DOUBLE	710
5	FAMILY	910

10 rows selected.

Query-07 : What is the total revenue per night from all double rooms for every hotel?

```
SQL> SELECT SUM(roomRent) TOTAL_REVENUEFROM Room
      NATURAL JOIN Booking
      WHERE roomType = 'DOUBLE';
```

TOTAL_REVENUE
5150

Query-08 : How many different guests have made bookings for November for each hotel?

```
SQL> SELECT UNIQUE(guestNo),guestFirstName||' '||guestLastName
      "GUEST_NAME",guestHomeState
      FROM Guest NATURAL JOIN Booking
      WHERE dateFrom LIKE '%NOV%';
```

GUESTNO	GUEST_NAME	GUESTHOMESTATE
19	HARBHAJAN SINGH	MAHARASHTRA

Query-09 - List the details of all rooms at “Airport MGM Nagpur”, including the name of the guest staying in the room, if the room is occupied.

```
SQL> SELECT roomNo,roomType,guestFirstName||' '||guestLastName GUEST_NAME
      FROM Checked_In
      NATURAL JOIN Room
      NATURAL JOIN Guest
      NATURAL JOIN Hotel
      WHERE hotelName = 'AIRPORT MGM NAGPUR';
no rows selected
```

Query-10 : What is the total income for September for the hotels in Maharashtra? You must also provide the distribution among the individual hotels.

```
SQL> SELECT hotelName, SUM(roomRent*(dateTo-dateFrom)) AS REVENUE
      FROM Booking NATURAL JOIN Hotel NATURAL JOIN Room
      WHERE dateFrom BETWEEN '01-SEP-2020' AND '30-SEP-2020'
      AND UPPER(inCity)='NAGPUR'
      GROUP BY hotelName;
```

HOTELNAME	REVENUE
CONSULATE MGH NAGPUR	8000

Query-11 - What is the lost income for the unoccupied rooms during September for hotels in Telangana (hotel wise)?

```
SQL> SELECT hotelName, SUM(roomRent)
FROM ((SELECT hotelName, roomRent
        FROM Hotel NATURAL JOIN Room
        WHERE UPPER(inCity)='HYDERABAD'
      )
  MINUS
  (SELECT hotelName, roomRent
    FROM Hotel NATURAL JOIN Room NATURAL JOIN Booking
    WHERE dateFrom BETWEEN '01-SEP-2020' AND '30-SEP-2020'
    AND UPPER(inCity) = 'HYDERABAD')
  )
GROUP BY hotelName;
```

HOTELNAME	SUM(ROOMRENT)
-----	-----
AIRPORT MGH HYDERABAD	3270
BEGUMPET MGH HYDERABAD	3160

***** END *****