

## ASSIGNMENT -12.1

Create the following tables.

**Hotel (Hotel\_No, Name, Address)**

**Room (Room\_No, Hotel\_No, Type, Price)**

**Booking (Hotel\_No, Guest\_No, Date\_From, Date\_To, Room\_No)**

**Guest (Guest\_No, Name, Address)**

### Table Create:-

```
CREATE TABLE HOTEL(  
    HOTEL_NO VARCHAR2(10) PRIMARY KEY,  
    NAME VARCHAR2(20),  
    ADDRESS VARCHAR2(20)  
);  
  
CREATE TABLE ROOM(  
    ROOM_NO VARCHAR2(10) PRIMARY KEY,  
    HOTEL_NO VARCHAR2(10),  
    TYPE VARCHAR2(20),  
    PRICE NUMBER(20),  
    FOREIGN KEY () REFERENCES HOTEL() ON DELETE CASCADE  
);  
  
CREATE TABLE GUEST(  
    GUEST_NO VARCHAR2(10) PRIMARY KEY,  
    NAME VARCHAR2(20),  
    ADDRESS VARCHAR2(20)  
);  
  
CREATE TABLE BOOKING(  
    HOTEL_NO VARCHAR2(10),
```

GUEST\_NO VARCHAR2(10),  
 ROOM\_NO VARCHAR2(10),  
 DATE\_FROM DATE,  
 DATE\_TO DATE,  
 FOREIGN KEY (HOTEL\_NO) REFERENCES HOTEL(HOTEL\_NO) ON DELETE  
 CASCADE,  
 FOREIGN KEY (GUEST\_NO) REFERENCES GUEST(GUEST\_NO) ON DELETE  
 CASCADE,  
 FOREIGN KEY (ROOM\_NO) REFERENCES ROOM(ROOM\_NO) ON DELETE  
 CASCADE  
 );

SQL> desc hotel;		
Name	Null?	Type
HOTEL_NO	NOT NULL	VARCHAR2(10)
NAME		VARCHAR2(20)
ADDRESS		VARCHAR2(20)
SQL> desc room;		
Name	Null?	Type
ROOM_NO	NOT NULL	VARCHAR2(10)
HOTEL_NO		VARCHAR2(10)
TYPE		VARCHAR2(20)
PRICE		NUMBER(20)
SQL> desc guest;		
Name	Null?	Type
GUEST_NO	NOT NULL	VARCHAR2(10)
NAME		VARCHAR2(20)
ADDRESS		VARCHAR2(20)
SQL> desc booking;		
Name	Null?	Type
HOTEL_NO		VARCHAR2(10)
GUEST_NO		VARCHAR2(10)
ROOM_NO		VARCHAR2(10)
DATE_FROM		DATE
DATE_TO		DATE

## Value Insert: -

```
INSERT INTO HOTEL VALUES ('H001','RAMSHAM_RSORT','SANTINIKETAN');
INSERT INTO HOTEL VALUES ('H002','Grosvenor','LONDON');
INSERT INTO HOTEL VALUES ('H003','SAKUNTALA_RSORT','SANTINIKETAN');
INSERT INTO HOTEL VALUES ('H004','Grosvenor','LONDON');
INSERT INTO HOTEL VALUES ('H005','CRISTALLO_RSORT','SANTINIKETAN');
```

```
SQL> select * from hotel;
```

HOTEL_NO	NAME	ADDRESS
H001	RAMSHAM_RSORT	SANTINIKETAN
H002	Grosvenor	LONDON
H003	SAKUNTALA_RSORT	SANTINIKETAN
H004	Grosvenor	LONDON
H005	CRISTALLO_RSORT	SANTINIKETAN

```
INSERT INTO ROOM VALUES ('R001','H001','SINGLE',2600);
INSERT INTO ROOM VALUES ('R002','H002','DOUBLE',40);
INSERT INTO ROOM VALUES ('R003','H003','FAMILY',39);
INSERT INTO ROOM VALUES ('R004','H004','DOUBLE',26);
INSERT INTO ROOM VALUES ('R005','H005','FAMILY',3200);
```

```
SQL> select * from room;
```

ROOM_NO	HOTEL_NO	TYPE	PRICE
R001	H001	SINGLE	2600
R002	H002	DOUBLE	40
R003	H003	FAMILY	39
R004	H004	DOUBLE	26
R005	H005	FAMILY	3200

INSERT INTO GUEST VALUES ('G001','SOUMYADEEP','HOWRAH');

INSERT INTO GUEST VALUES ('G002','DEEP','VIP\_BAZAR');

INSERT INTO GUEST VALUES ('G003','SOM','HOWRAH');

INSERT INTO GUEST VALUES ('G004','AMAN','MUMBAI');

INSERT INTO GUEST VALUES ('G005','YEADHAV','LONDON');

```
SQL> select * from guest;
```

GUEST_NO	NAME	ADDRESS
G001	SOUMYADEEP	HOWRAH
G002	DEEP	VIP_BAZAR
G003	SOM	HOWRAH
G004	AMAN	MUMBAI
G005	YEADHAV	LONDON

INSERT INTO BOOKING VALUES ('H001','G001','R001','26-AUG-2024','29-SEP-2024');

INSERT INTO BOOKING VALUES ('H002','G002','R002',NULL,NULL);

INSERT INTO BOOKING VALUES ('H003','G003','R003','23-DEC-2024',NULL);

INSERT INTO BOOKING VALUES ('H004','G004','R004','26-JAN-2024','29-APRIL-2024');

INSERT INTO BOOKING VALUES ('H005','G005','R005','16-AUG-2024','27-SEP-2024');

```
SQL> select * from booking;
```

HOTEL_NO	GUEST_NO	ROOM_NO	DATE_FROM	DATE_TO
H001	G001	R001	26-AUG-24	29-SEP-24
H002	G002	R002		
H003	G003	R003	23-DEC-24	
H004	G004	R004	26-JAN-24	29-APR-24
H005	G005	R005	16-AUG-24	27-SEP-24

## Write Query: -

1. List the names and addresses of all guests in London, alphabetically ordered by name.

```
SELECT G.NAME,G.ADDRESS
FROM GUEST G
JOIN BOOKING B ON B.GUEST_NO=G.GUEST_NO
JOIN HOTEL H ON H.HOTEL_NO=B.HOTEL_NO
WHERE H.ADDRESS='LONDON'
ORDER BY G.NAME;
```

```
SQL> SELECT G.NAME,G.ADDRESS
2  FROM GUEST G
3  JOIN BOOKING B ON B.GUEST_NO=G.GUEST_NO
4  JOIN HOTEL H ON H.HOTEL_NO=B.HOTEL_NO
5  WHERE H.ADDRESS='LONDON'
6  ORDER BY G.NAME;
```

NAME	ADDRESS
AMAN	MUMBAI
DEEP	VIP_BAZAR

2. 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' OR Type = 'FAMILY') AND Price < 40.00
ORDER BY Price ASC;
```

```
SQL> SELECT *
2  FROM Room
3  WHERE (Type = 'DOUBLE' OR Type = 'FAMILY') AND Price < 40.00
4  ORDER BY Price ASC;
```

ROOM_NO	HOTEL_NO	TYPE	PRICE
R004	H004	DOUBLE	26
R003	H003	FAMILY	39

**3. List the bookings for which no date\_to has been specified.**

```
SELECT *  
FROM BOOKING  
WHERE DATE_TO IS NULL;
```

```
SQL> SELECT *  
  2  FROM BOOKING  
  3  WHERE DATE_TO IS NULL;
```

HOTEL_NO	GUEST_NO	ROOM_NO	DATE_FROM	DATE_TO
H002	G002	R002		
H003	G003	R003	23-DEC-24	

**4. How many hotels are there?**

```
SELECT COUNT(HOTEL_NO) AS NUMBER_OF_HOTELS  
FROM HOTEL;
```

```
SQL> SELECT COUNT(HOTEL_NO) AS NUMBER_OF_HOTELS  
  2  FROM HOTEL;
```

NUMBER_OF_HOTELS
5

**5. What is the average price of a room?**

```
SELECT TYPE,AVG(PRICE) AS AVG_PRICE  
FROM ROOM  
GROUP BY TYPE;
```

```
SQL> SELECT TYPE,AVG(PRICE) AS AVG_PRICE  
  2  FROM ROOM  
  3  GROUP BY TYPE;
```

TYPE	AVG_PRICE
SINGLE	2600
DOUBLE	33
FAMILY	1619.5

**6. What is the total revenue per night from all double rooms?**

```
SELECT SUM(R.PRICE * (B.DATE_TO - B.DATE_FROM)) AS  
TOTALREVENUEPERNIGHT  
FROM Room R  
JOIN Booking B ON R.ROOM_NO = B.ROOM_NO  
WHERE R.TYPE = 'DOUBLE';
```

```
SQL> SELECT SUM(R.PRICE * (B.DATE_TO - B.DATE_FROM)) AS TOTALREVENUEPERNIGHT  
2 FROM Room R  
3 JOIN Booking B ON R.ROOM_NO = B.ROOM_NO  
4 WHERE R.TYPE = 'DOUBLE';  
  
TOTALREVENUEPERNIGHT  
-----  
2444
```

**7. How many different guests have made bookings for August?**

```
SELECT COUNT(DISTINCT GUEST_NO) AS NUMBEROFGUEST  
FROM BOOKING  
WHERE EXTRACT(MONTH FROM DATE_FROM)=8;
```

```
SQL> SELECT COUNT(DISTINCT GUEST_NO) AS NUMBEROFGUEST  
2 FROM BOOKING  
3 WHERE EXTRACT(MONTH FROM DATE_FROM)=8;  
  
NUMBEROFGUEST  
-----  
2
```

**8. 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 G.NAME,R.*  
FROM ROOM R  
JOIN HOTEL H ON H.HOTEL_NO=R.HOTEL_NO  
JOIN BOOKING B ON B.ROOM_NO=R.ROOM_NO  
JOIN GUEST G ON G.GUEST_NO=B.GUEST_NO  
WHERE H.NAME='Grosvenor';
```

```
SQL> SELECT G.NAME,R.*  
2 FROM ROOM R  
3 JOIN HOTEL H ON H.HOTEL_NO=R.HOTEL_NO  
4 JOIN BOOKING B ON B.ROOM_NO=R.ROOM_NO  
5 JOIN GUEST G ON G.GUEST_NO=B.GUEST_NO  
6 WHERE H.NAME='Grosvenor';  
  
NAME                ROOM_NO  HOTEL_NO  TYPE                PRICE  
-----  
DEEP                R002     H002     DOUBLE              40  
AMAN                R004     H004     DOUBLE              26
```

**9. What is the total income from bookings for the Grosvenor Hotel today?**

```
SELECT SUM((B.Date_To - B.Date_From) * R.Price) AS TotalIncome
FROM ROOM R
JOIN Booking B ON R.Room_No = B.Room_No
JOIN Hotel H ON R.Hotel_No = H.Hotel_No
WHERE H.NAME = 'Grosvenor'
AND B.Date_From <= '29-APRIL-2024'
AND (B.Date_To IS NULL OR B.Date_To >= '29-APRIL-2024');
```

```
SQL> SELECT SUM((B.Date_To - B.Date_From) * R.Price) AS TotalIncome
2  FROM ROOM R
3  JOIN Booking B ON R.Room_No = B.Room_No
4  JOIN Hotel H ON R.Hotel_No = H.Hotel_No
5  WHERE H.NAME = 'Grosvenor'
6  AND B.Date_From <= '29-APRIL-2024'
7  AND (B.Date_To IS NULL OR B.Date_To >= '29-APRIL-2024');

TOTALINCOME
-----
          2444
```

**10. List the rooms that are currently unoccupied at the Grosvenor Hotel.**

```
SELECT R.ROOM_NO, R.TYPE
FROM ROOM R
JOIN BOOKING B ON B.ROOM_NO=R.ROOM_NO
WHERE B.DATE_FROM IS NULL;
```

```
SQL> SELECT R.ROOM_NO, R.TYPE
2  FROM ROOM R
3  JOIN BOOKING B ON B.ROOM_NO=R.ROOM_NO
4  WHERE B.DATE_FROM IS NULL;

ROOM_NO    TYPE
-----
R002      DOUBLE
```