**Lab Assignment # 2**

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**Roll no.** SP24-BCS-093

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**Submitted To:**

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**SQL Queries and Views**

1. **Guests who booked rooms costing more than the average room price:**

sql

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SELECT \* FROM guests

WHERE guest\_id IN (

SELECT guest\_id

FROM bookings

WHERE room\_id IN (

SELECT room\_id FROM rooms

WHERE price\_per\_night > (SELECT AVG(price\_per\_night) FROM rooms)

)

);

1. **Hotels with rooms cheaper than average room price:**

sql

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SELECT \* FROM hotels

WHERE hotel\_id IN (

SELECT hotel\_id FROM rooms

WHERE price\_per\_night < (SELECT AVG(price\_per\_night) FROM rooms)

);

1. **Guests with bookings that overlap with '2025-05-01':**

sql

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SELECT \* FROM guests

WHERE guest\_id IN (

SELECT guest\_id FROM bookings

WHERE '2025-05-01' BETWEEN check\_in\_date AND check\_out\_date

);

1. **Rooms never booked:**

sql

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SELECT \* FROM rooms

WHERE room\_id NOT IN (

SELECT room\_id FROM bookings

);

1. **Maximum price per night among all rooms:**

sql

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SELECT MAX(price\_per\_night) AS max\_price FROM rooms;

1. **Guests who stayed longer than the average stay duration:**

sql

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SELECT \* FROM guests

WHERE guest\_id IN (

SELECT guest\_id

FROM bookings

GROUP BY guest\_id, booking\_id

HAVING DATEDIFF(check\_out\_date, check\_in\_date) > (

SELECT AVG(DATEDIFF(check\_out\_date, check\_in\_date)) FROM bookings

)

);

1. **Hotels with the highest rating:**

sql

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SELECT \* FROM hotels

WHERE rating = (SELECT MAX(rating) FROM hotels);

**Queries Using JOINS**

1. **Bookings with guest name, hotel name, and room type:**

sql

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SELECT b.booking\_id, g.name AS guest\_name, h.hotel\_name, r.room\_type

FROM bookings b

JOIN guests g ON b.guest\_id = g.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

JOIN hotels h ON r.hotel\_id = h.hotel\_id;

1. **Guests who booked rooms in their home country:**

sql

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SELECT DISTINCT g.\*

FROM guests g

JOIN bookings b ON g.guest\_id = b.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

JOIN hotels h ON r.hotel\_id = h.hotel\_id

WHERE g.country = h.country;

1. **Each guest with total number of bookings:**

sql

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SELECT g.name, COUNT(b.booking\_id) AS total\_bookings

FROM guests g

LEFT JOIN bookings b ON g.guest\_id = b.guest\_id

GROUP BY g.guest\_id;

1. **Rooms with hotel name and number of bookings:**

sql

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SELECT r.room\_id, h.hotel\_name, COUNT(b.booking\_id) AS booking\_count

FROM rooms r

JOIN hotels h ON r.hotel\_id = h.hotel\_id

LEFT JOIN bookings b ON r.room\_id = b.room\_id

GROUP BY r.room\_id;

1. **Guests who booked the most expensive rooms:**

sql

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SELECT DISTINCT g.\*

FROM guests g

JOIN bookings b ON g.guest\_id = b.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

WHERE r.price\_per\_night = (SELECT MAX(price\_per\_night) FROM rooms);

1. **Guests who never made a booking:**

sql

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SELECT \* FROM guests

WHERE guest\_id NOT IN (SELECT guest\_id FROM bookings);

1. **Bookings with guest info and room price, sorted by check-in date:**

sql

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SELECT b.\*, g.name, r.price\_per\_night

FROM bookings b

JOIN guests g ON b.guest\_id = g.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

ORDER BY b.check\_in\_date;

**Views to Create**

1. **Cheapest rooms with hotel names:**

sql

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CREATE VIEW cheapest\_rooms AS

SELECT r.\*, h.hotel\_name

FROM rooms r

JOIN hotels h ON r.hotel\_id = h.hotel\_id

WHERE r.price\_per\_night = (SELECT MIN(price\_per\_night) FROM rooms);

1. **Guests from BRICS countries:**

sql

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CREATE VIEW brics\_guests AS

SELECT \* FROM guests

WHERE country IN ('Brazil', 'Russia', 'India', 'China', 'South Africa');

1. **Booking details with guest, hotel, room type, and stay duration:**

sql

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CREATE VIEW booking\_details AS

SELECT b.booking\_id, g.name AS guest\_name, h.hotel\_name, r.room\_type,

DATEDIFF(b.check\_out\_date, b.check\_in\_date) AS stay\_duration

FROM bookings b

JOIN guests g ON b.guest\_id = g.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

JOIN hotels h ON r.hotel\_id = h.hotel\_id;

1. **Guests who booked rooms in their own country:**

sql

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CREATE VIEW local\_guests AS

SELECT DISTINCT g.\*

FROM guests g

JOIN bookings b ON g.guest\_id = b.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

JOIN hotels h ON r.hotel\_id = h.hotel\_id

WHERE g.country = h.country;

1. **Guests who stayed in most expensive rooms:**

sql

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CREATE VIEW luxury\_guests AS

SELECT DISTINCT g.\*

FROM guests g

JOIN bookings b ON g.guest\_id = b.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id

WHERE r.price\_per\_night = (SELECT MAX(price\_per\_night) FROM rooms);

1. **Total bookings per guest:**

sql

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CREATE VIEW guest\_booking\_count AS

SELECT g.name, COUNT(b.booking\_id) AS total\_bookings

FROM guests g

LEFT JOIN bookings b ON g.guest\_id = b.guest\_id

GROUP BY g.guest\_id;

1. **Booking summary with total amount paid:**

sql

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CREATE VIEW booking\_summary AS

SELECT b.booking\_id, g.name AS guest\_name, r.price\_per\_night,

DATEDIFF(b.check\_out\_date, b.check\_in\_date) AS nights,

r.price\_per\_night \* DATEDIFF(b.check\_out\_date, b.check\_in\_date) AS total\_amount

FROM bookings b

JOIN guests g ON b.guest\_id = g.guest\_id

JOIN rooms r ON b.room\_id = r.room\_id;