Hotel Reservation Analysis 

SQL | Internship | Mentorness |

Presented By
Ravi Patel

Overview:

The hotel industry relies on data to make informed decisions and enhance guest experience. In this project, I analyzed a hotel reservation dataset to uncover insights into guest preferences, booking trends, and key operational factors. Using SQL, I queried and analyzed the data to answer specific questions, providing valuable information for improving hotel operations.

Methodology :

- Utilized PostgreSQL for Querying and Analyzing Data
- Employed PostgreSQL, a powerful relational database management system, for querying and analyzing the hotel reservation dataset.
- Leveraged PostgreSQL's capabilities to handle complex data operations and generate visualizations for enhanced data interpretation.

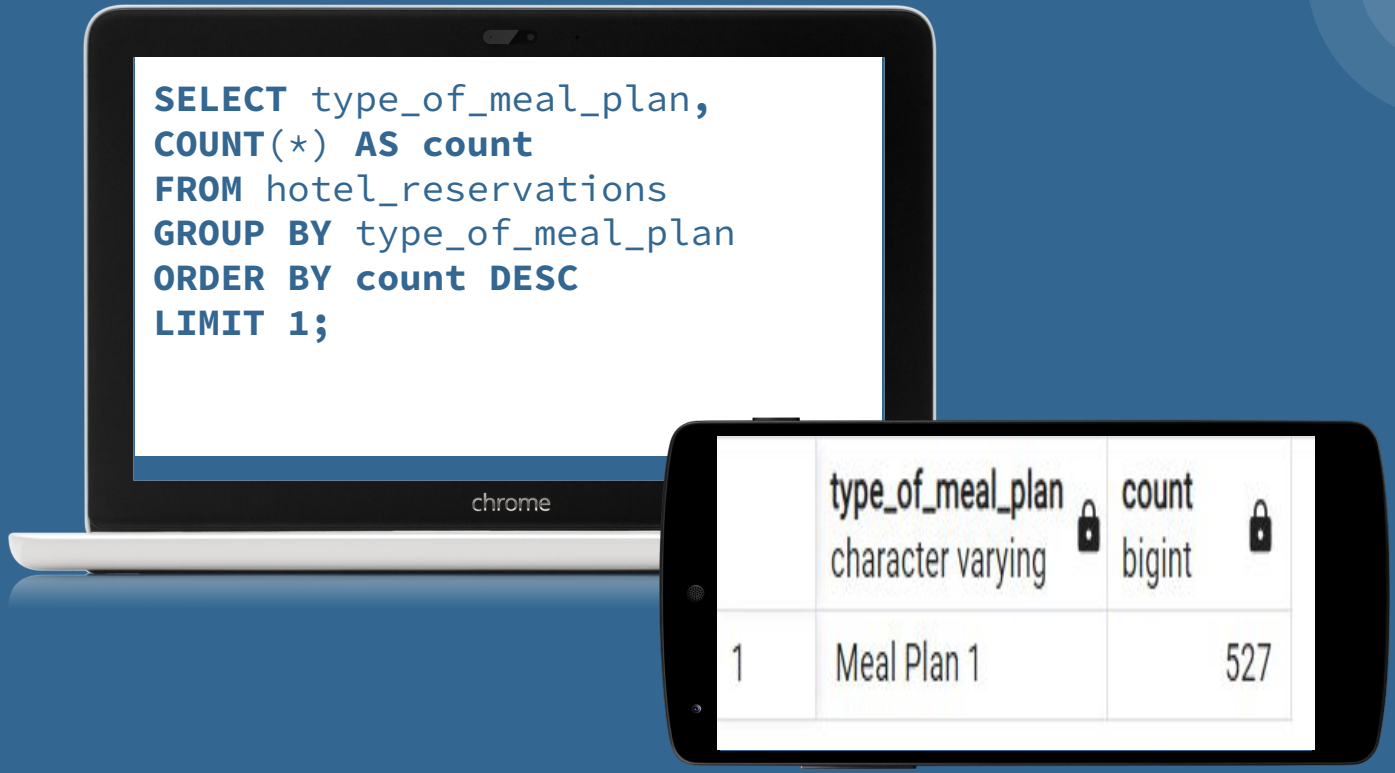
Dataset Details :

The dataset includes the following columns:

- **Booking_ID**: Unique identifier for each reservation.
- **no_of_adults**: Number of adults in the reservation.
- **no_of_children**: Number of children in the reservation.
- **no_of_weekend_nights**: Weekend nights in the reservation.
- **no_of_week_nights**: Weekday nights in the reservation.
- **type_of_meal_plan**: Chosen meal plan.
- **room_type_reserved**: Reserved room type.
- **lead_time**: Days between booking and arrival.
- **arrival_date**: Date of arrival.
- **market_segment_type**: Market segment of the reservation.
- **avg_price_per_room**: Average price per room.
- **booking_status**: Booking status.

Q 1 : What is the total number of reservations in the dataset?

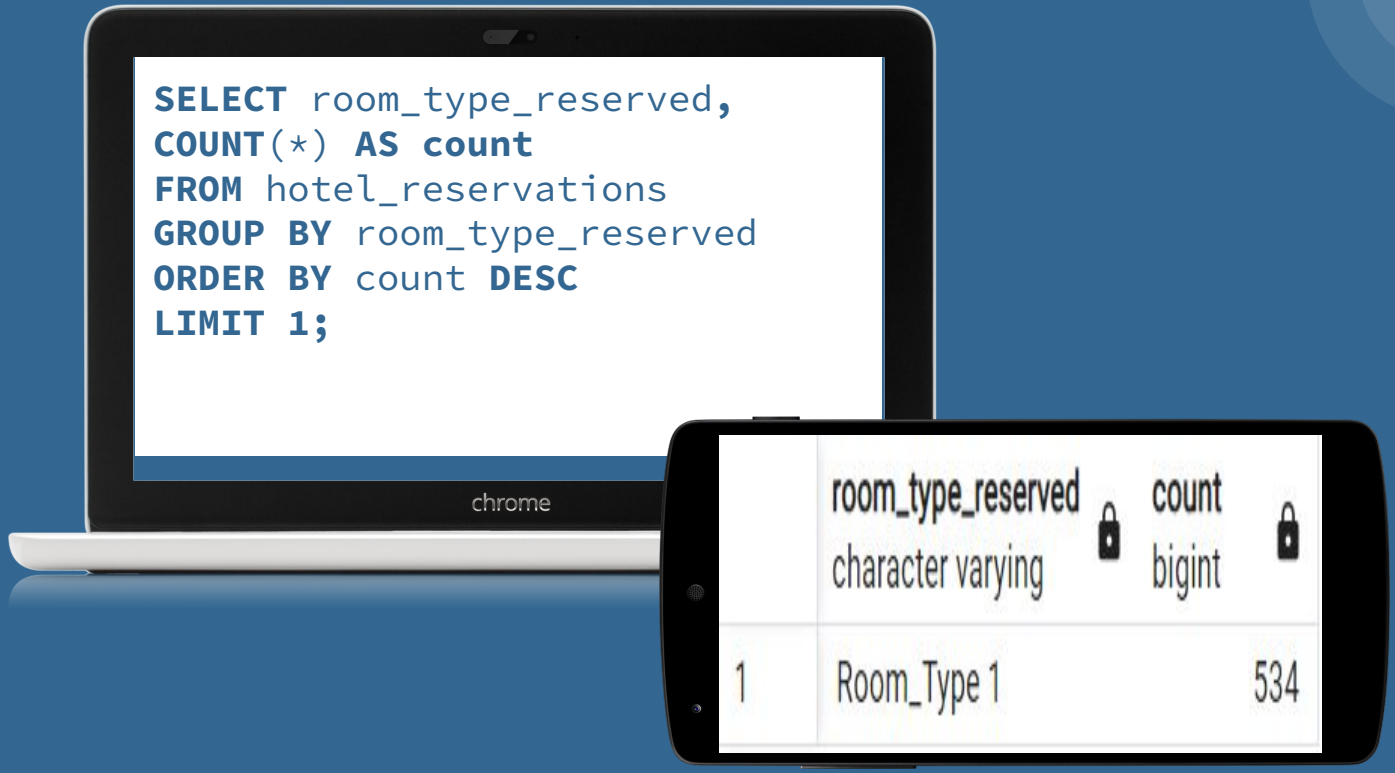
Q 2 : Which meal plan is the most popular among guests?



Q 3 : What is the average price per room for reservations involving children?

Q 4 : How many reservations were made for the year 2018?

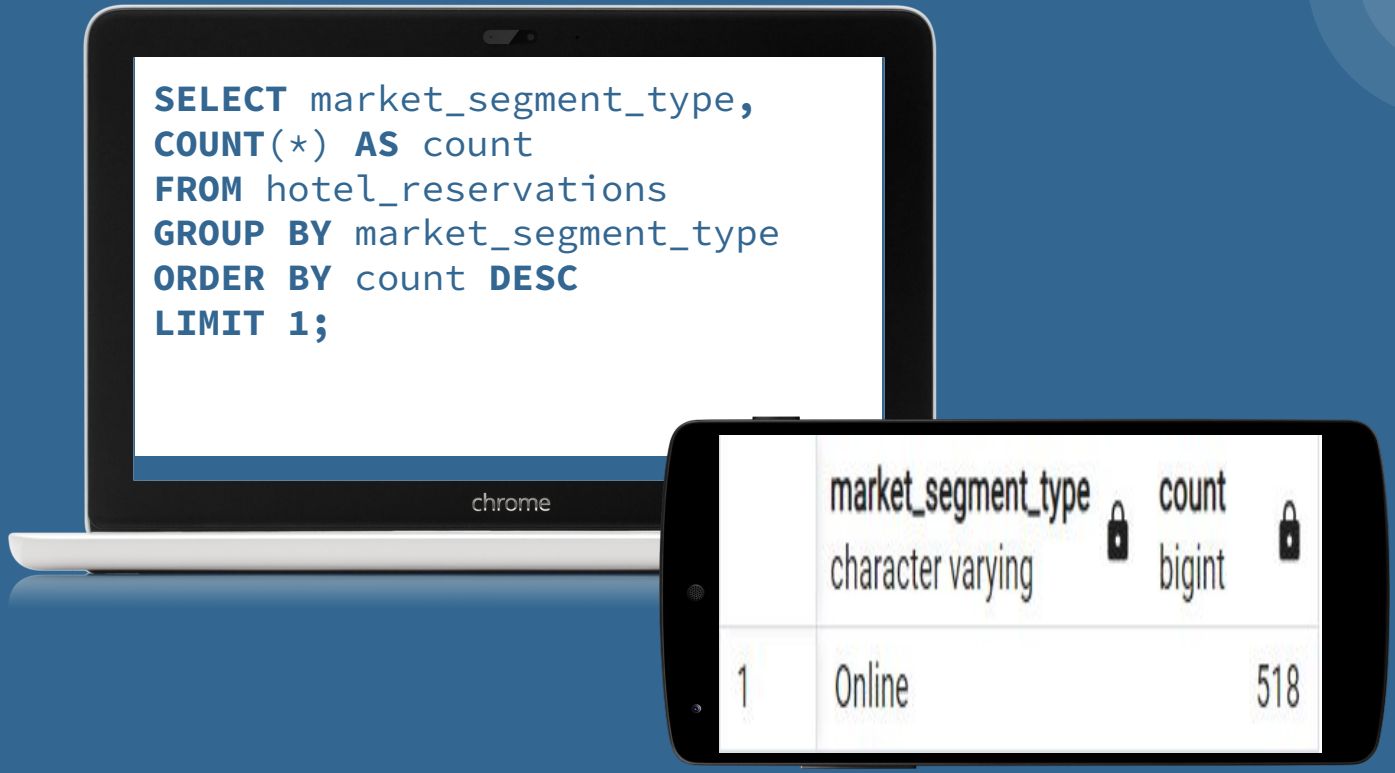
Q 5 : What is the most commonly booked room type?



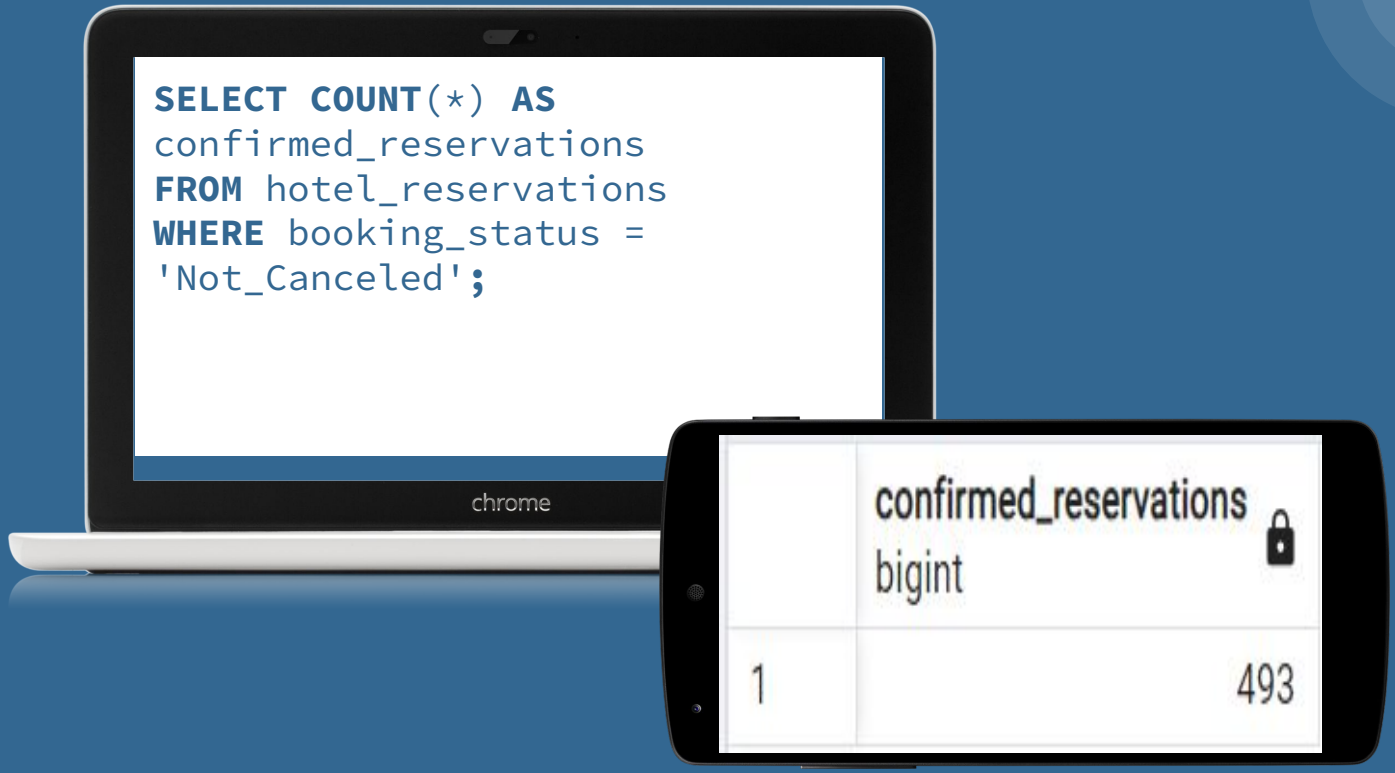
Q 6 : How many reservations fall on a weekend (no_of_weekend_nights > 0)?

Q 7 : What is the highest and lowest lead time for reservations?

Q 8 : What is the most common market segment type for reservations?



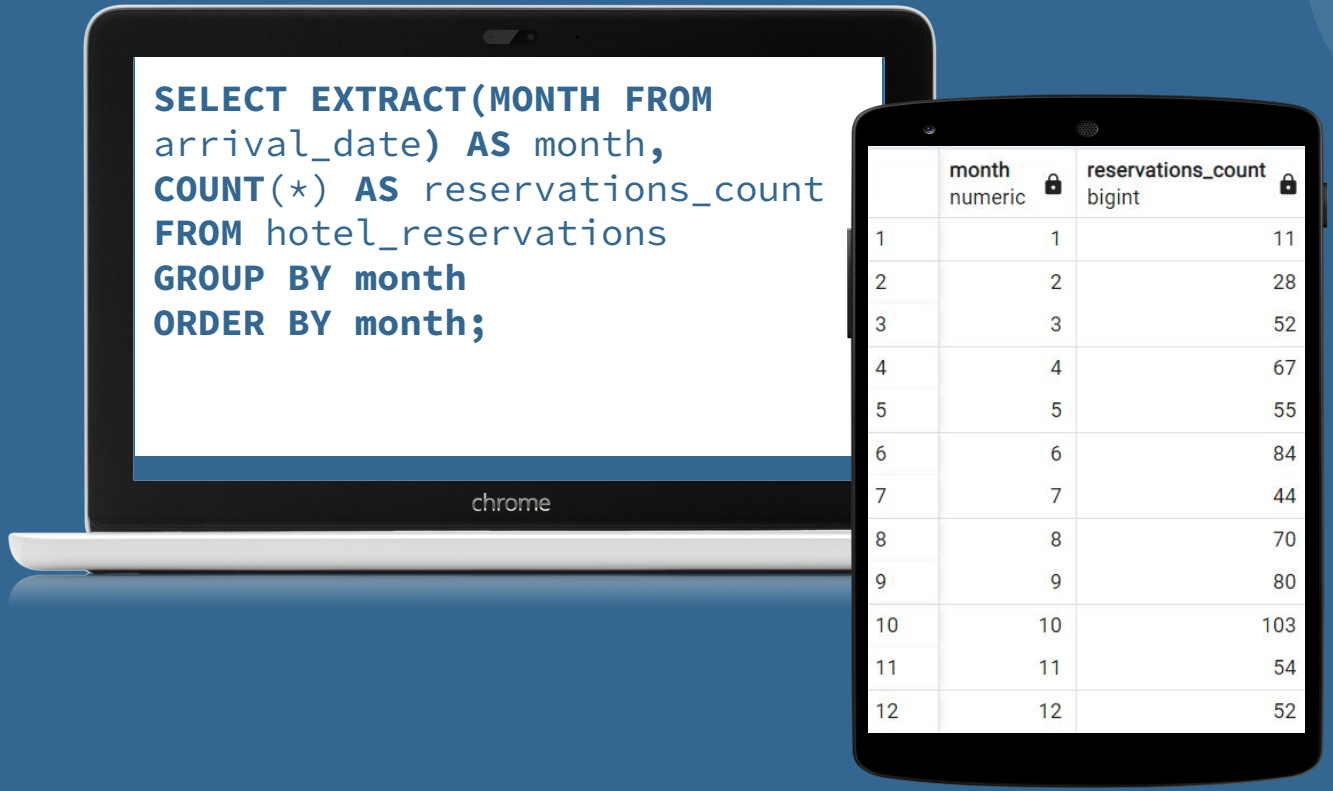
Q 9 : How many reservations have a booking status of "Confirmed"?



Q 10 : What is the total number of adults and children across all reservations?

Q 11 : What is the average number of weekend nights for reservations involving children?

Q 12 : How many reservations were made in each month of the year?

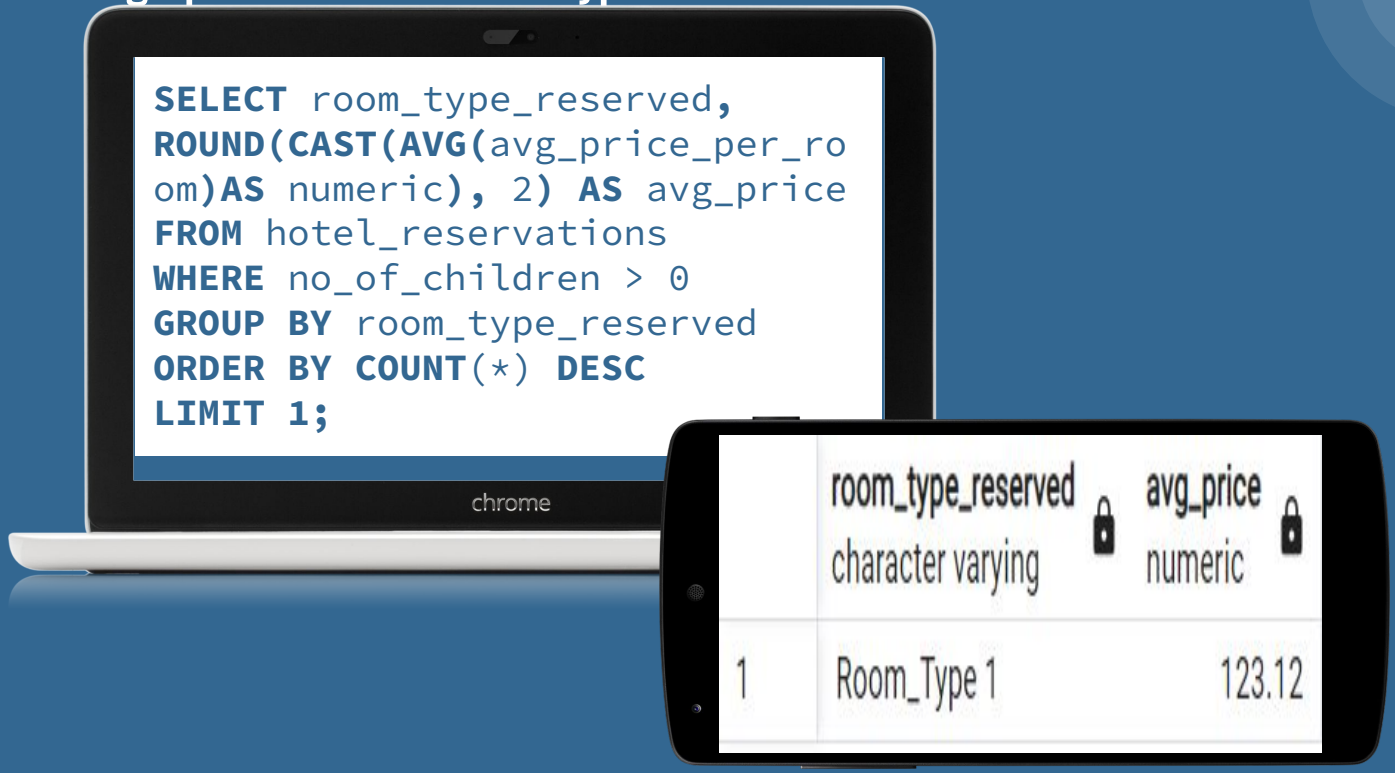


	month numeric	reservations_count bigint
1	1	11
2	2	28
3	3	52
4	4	67
5	5	55
6	6	84
7	7	44
8	8	70
9	9	80
10	10	103
11	11	54
12	12	52

Q 13 : What is the average number of nights (both weekend and weekday) spent by guests for each room type?

	room_type_reserved character varying	avg_nights numeric
1	Room_Type 7	2.67
2	Room_Type 1	2.88
3	Room_Type 5	2.50
4	Room_Type 2	3.00
5	Room_Type 6	3.61
6	Room_Type 4	3.80

Q 14 : For reservations involving children, what is the most common room type, and what is the average price for that room type?



Q 15 : Find the market segment type that generates the highest average price per room.

Recommendations:

- ❑ Increase Marketing Efforts During Peak Booking Periods
- ❑ Offer Special Packages for Popular Room Types and Meal Plans
- ❑ Implement Strategies to Reduce Cancellations
- ❑ Focus on Attracting Corporate Bookings
- ❑ Adjust Pricing Based on Room Type Popularity
- ❑ Enhance Seasonal Promotions

Conclusion:

The analysis shows that certain meal plans and room types are very popular, with weekends seeing a surge in bookings. Families prefer specific room types and prices, while a key market segment books the highest rates. By using these insights, the hotel can enhance its offerings, target marketing efforts, and improve guest experiences, leading to increased bookings and higher revenue.

THANK YOU!!