Hotel Bookings SQL Analysis Portfolio

Name: Parimi Gandhi Balaji

Academic: B.Tech CSE (Data Science with Machine Learning)

University: Lovely Professional University (LPU)

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Introduction

This portfolio presents an SQL-based analysis of hotel bookings data to explore booking behavior, pricing trends, guest preferences, and marketing insights. The project uses real-world data to simulate what a data analyst might do to help hotel businesses make better decisions.

SQL Analysis & Insights

1. Total number of reservations

```
SELECT COUNT(*) AS total_reservations FROM hotel_bookings;
```

2. Most popular meal plan

```
SELECT type_of_meal_plan, COUNT(*) AS count FROM hotel_bookings GROUP BY type_of_meal_plan ORDER BY count DESC LIMIT 1;
```

3. Average price for bookings with children

```
SELECT AVG(avg_price_per_room) FROM hotel_bookings WHERE no_of_children > 0;
```

4. Reservations in a specific year

```
SELECT COUNT(*) FROM hotel_bookings WHERE YEAR(STR_TO_DATE(arrival_date, '%Y-%m-%d')) = 2022;
```

5. Most booked room type

```
SELECT room_type_reserved, COUNT(*) FROM hotel_bookings GROUP BY room_type_reserved ORDER BY COUNT(*) DESC LIMIT 1;
```

6. Bookings on weekends

```
SELECT COUNT(*) FROM hotel_bookings WHERE no_of_weekend_nights > 0;
```

7. Max & min lead time

```
SELECT MAX(lead_time), MIN(lead_time) FROM hotel_bookings;
```

8. Most common market segment

SELECT market_segment_type, COUNT(*) FROM hotel_bookings GROUP BY market_segment_type ORDER BY COUNT(*) DESC LIMIT 1;

9. Confirmed bookings count

SELECT COUNT(*) FROM hotel_bookings WHERE booking_status = 'Confirmed';

10. Total adults and children

SELECT SUM(no_of_adults), SUM(no_of_children) FROM hotel_bookings;

11. Avg price of room types per market segment

SELECT market_segment_type, room_type_reserved, AVG(avg_price_per_room) FROM hotel_bookings GROUP BY market_segment_type, room_type_reserved ORDER BY market_segment_type, AVG(avg_price_per_room) DESC;

12. Top 2 room types per segment

SELECT * FROM (SELECT market_segment_type, room_type_reserved, COUNT(*) AS count, RANK() OVER (PARTITION BY market_segment_type ORDER BY COUNT(*) DESC) AS rnk FROM hotel_bookings GROUP BY market_segment_type, room_type_reserved) AS ranked_rooms WHERE rnk <= 2;

13. Avg nights by room type

SELECT room_type_reserved, AVG(no_of_weekend_nights + no_of_week_nights) FROM hotel_bookings GROUP BY room_type_reserved;

14. Common room type for bookings with children

SELECT room_type_reserved, COUNT(*) AS count, AVG(avg_price_per_room) FROM hotel_bookings WHERE no_of_children > 0 GROUP BY room_type_reserved ORDER BY count DESC LIMIT 1;

15. Market segment with highest avg price

SELECT market_segment_type, AVG(avg_price_per_room) FROM hotel_bookings GROUP BY market_segment_type ORDER BY AVG(avg_price_per_room) DESC LIMIT 1;