Hotel Reservation Analysis with SQL

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Overview

The hotel industry relies on data to make informed decisions and provide a better guest experience. In this internship, you will work with a hotel reservation dataset to gain insights into guest preferences, Booking trends, and other key factors that impact the hotel's operations. You will use SQL to query and analyze the data, as well as answer specific questions about the dataset.

Dataset Details

mThe dataset includes the following columns:
 Booking_ID: A unique identifier for each hotel reservation.
 no_of_adults: The number of adults in the reservation.
 no_of_children: The number of children in the reservation.
 no_of_weekend_nights: The number of nights in the reservation that fall on
weekends.
 no_of_week_nights: The number of nights in the reservation that fall on
weekdays.
 type_of_meal_plan: The meal plan chosen by the guests.
 room_type_reserved: The type of room reserved by the guests.
 lead_time: The number of days between booking and arrival.
 arrival_date: The date of arrival.
 market_segment_type: The market segment to which the reservation belongs.
 avg_price_per_room: The average price per room in the reservation.
 booking_status: The status of the booking.

1. What is the total number of reservations in the dataset?

SELECT COUNT(*) AS total_reservations FROM reservations;

2. Which meal plan is the most popular among guests?

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

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

```
SELECT
AVG(avg_price_per_room) AS
avg_price_per_room_with_childr
en
FROM reservations
WHERE no_of_children > 0;
```

4. How many reservations were made for the year 20XX (replace XX with the desired year)?

```
SELECT COUNT(*) AS
reservations_for_year
FROM reservations
WHERE YEAR(arrival_date) =
2023;
```

5. What is the most commonly booked room type?

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

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

```
SELECT COUNT(*) AS
reservations_on_weekend
FROM reservations
WHERE no_of_weekend_nights > 0;
```

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

```
SELECT MAX(lead_time) AS
highest_lead_time, MIN(lead_time)
AS lowest_lead_time
FROM reservations;
```

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

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

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

```
SELECT COUNT(*) AS
confirmed_reservations
FROM reservations
WHERE booking_status =
'Confirmed';
```

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

```
SELECT SUM(no_of_adults) AS
total_adults, SUM(no_of_children)
AS total_children
FROM reservations;
```

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

```
SELECT
AVG(no_of_weekend_nights) AS
avg_weekend_nights_with_children
FROM reservations
WHERE no_of_children > 0;
```

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

```
SELECT MONTH(arrival_date) AS
month, COUNT(*) AS
reservations_count
FROM reservations
GROUP BY MONTH(arrival_date)
ORDER BY month;
```

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

```
SELECT room_type_reserved,
       AVG(no_of_weekend_nights +
no_of_week_nights) AS
avg_total_nights
FROM reservations
GROUP BY room_type_reserved;
```

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

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

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

```
SELECT market_segment_type,
AVG(avg_price_per_room) AS
avg_price_per_room
FROM reservations
GROUP BY market_segment_type
ORDER BY avg_price_per_room DESC LIMIT 1;
```

THANK YOU