



# 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. Q&A

### Dataset Details:

The 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.

## QUESTION & ANSWER

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

```
SELECT COUNT(Booking_ID) AS total_reservation FROM hotel_reservation_dataset;
```

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Extra options

total_reservation
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700
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## 2. Which meal plan is the most popular among guests?

```
SELECT type_of_meal_plan, COUNT(type_of_meal_plan) AS total_count FROM hotel_reservation_dataset GROUP BY type_of_meal_plan ORDER BY  
COUNT(type_of_meal_plan) DESC LIMIT 1;
```

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Extra options

type_of_meal_plan	total_count
Meal Plan 1	527



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

```
SELECT ROUND(AVG(avg_price_per_room), 1) AS avg_price_per_room_for_children FROM hotel_reservation_dataset WHERE no_of_children >0;
```

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Extra options

avg_price_per_room_for_children
144.6

## 4. What is the most commonly booked room type?

```
SELECT room_type_reserved, COUNT(room_type_reserved) AS total_booking FROM hotel_reservation_dataset GROUP BY room_type_reserved ORDER BY  
COUNT(room_type_reserved) DESC LIMIT 1;
```

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Extra options

room_type_reserved	total_booking
Room_Type 1	534

## 6. How many reservations fall on a weekend (no\_of\_weekend\_nights > 0)?

```
SELECT COUNT(*) AS total_weekend_reservations FROM hotel_reservation_dataset WHERE no_of_weekend_nights > 0;
```

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Extra options

total\_weekend\_reservations

383

## Weekday Reservation

```
SELECT COUNT(*) AS total_weekday_reservations FROM hotel_reservation_dataset WHERE no_of_week_nights > 0;
```

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Extra options

total\_weekday\_reservations

656



## 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 hotel_reservation_dataset;
```

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[Extra options](#)

highest_lead_time	lowest_lead_time
443	0

## AVG\_Lead\_Time

```
SELECT AVG(lead_time) AS avg_lead_time FROM hotel_reservation_dataset;
```

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[Extra options](#)

avg_lead_time
83.3000

# 8. What is the distribution of market segments for guests making same day reservations versus those with long lead times (443 days)?

```
SELECT market_segment_type, COUNT(market_segment_type) AS total_market_segment FROM hotel_reservation_dataset WHERE lead_time = 0 GROUP BY market_segment_type;
```

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Extra options

market_segment_type	total_market_segment
Complementary	1
Corporate	7
Offline	2
Online	16

```
SELECT market_segment_type, COUNT(market_segment_type) AS total_market_segment FROM hotel_reservation_dataset WHERE lead_time = 443 GROUP BY market_segment_type;
```

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Extra options

market_segment_type	total_market_segment
Online	1

## 9. What is the most common market segment type for reservations"

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

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Extra options

market_segment_type	total_reseervations
Online	518

10. What is the total number of confirmed reservations, and what percentage of reservations have a "Confirmed" booking status?

```
SELECT COUNT(*) AS confirmed_reservations FROM hotel_reservation_dataset WHERE booking_status = "Not_Canceled";
```

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Extra options

confirmed\_reservations

493

# 11. 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 hotel_reservation_dataset;
```

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Extra options

total_adults	total_children
1316	69

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

```
SELECT ROUND(AVG(no_of_weekend_nights), 2) AS avg_weekend_nights_for_children FROM hotel_reservation_dataset WHERE no_of_children > 0;
```

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Extra options

avg_weekend_nights_for_children
---------------------------------

1.00
------



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

```
SELECT room_type_reserved, ROUND(AVG(no_of_weekend_nights + no_of_week_nights), 2) AS avg_total_nights FROM hotel_reservation_dataset GROUP BY room_type_reserved ORDER BY AVG(no_of_weekend_nights + no_of_week_nights) DESC;
```

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Extra options

room_type_reserved	avg_total_nights
Room_Type 4	3.80
Room_Type 6	3.61
Room_Type 2	3.00
Room_Type 1	2.88
Room_Type 7	2.67
Room_Type 5	2.50

# 15. 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 total_reservations, ROUND(AVG(avg_price_per_room),2) AS avg_price_per_room FROM hotel_reservation_dataset WHERE no_of_children  
GROUP BY room_type_reserved ORDER BY COUNT(*) DESC LIMIT 1;
```

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Extra options

room_type_reserved	total_reservations	avg_price_per_room
Room_Type 1	24	123.12

## 16. Find the market segment type that generates the highest average price per room?

```
SELECT market_segment_type, ROUND(AVG(avg_price_per_room),2) As highest_avg_price_per_room FROM hotel_reservation_dataset GROUP BY market_segment_type ORDER BY highest_avg_price_per_room DESC LIMIT 1;
```

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Extra options

market_segment_type	highest_avg_price_per_room
Online	112.46