

## Hotel Reservation Analysis with SQL

- AKASH P

#### **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

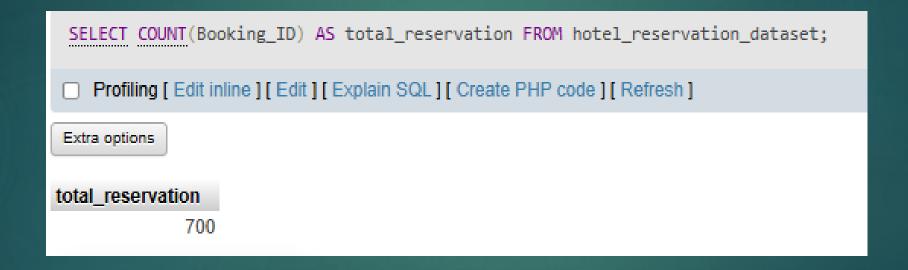
#### **Dataset Details:**

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?



#### 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;

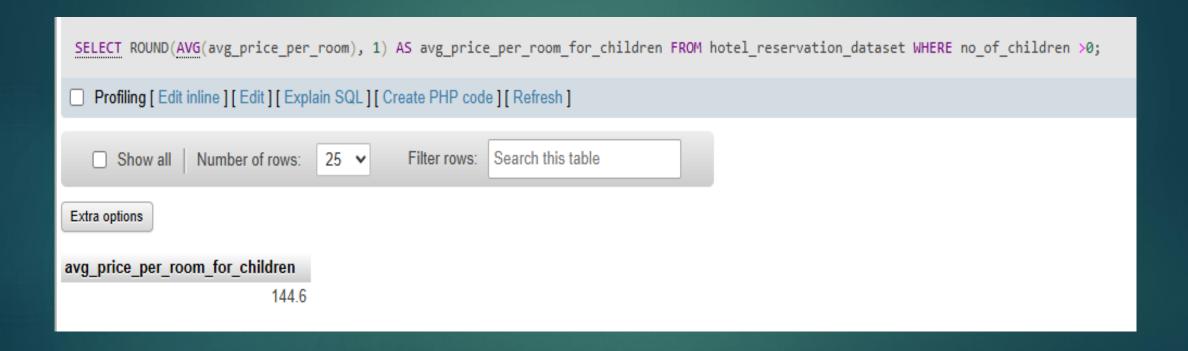
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Extra options

type_of_meal_plan total_count

Meal Plan 1 527
```

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



#### 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;
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
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_lea	ad_time, MIN(lead_time) AS lowest_lead_time F	ROM hotel_reservation_dataset;
☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQ	L][Create PHP code][Refresh]	
☐ Show all Number of rows: 25	➤ Filter rows: Search this table	
Extra options		
highest_lead_time lowest_lead_time		
443 0		

#### AVG\_Lead\_Time

SELECT AVG(lead_time) AS avg_le	ead_time FRO	OM hotel_res	ervation_dataset;
☐ Profiling [ Edit inline ] [ Edit ] [ Expla	ain SQL][Cre	eate PHP code	e][Refresh]
Show all   Number of rows:	25 🕶	Filter rows:	Search this table
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;
□ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
☐ Show all  Number of rows: 25 ✔ Filter rows: Search this table
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;
☐ Profiling [ Edit ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
Extra options
market_segment_type
Online 1

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

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

1;

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Extra options

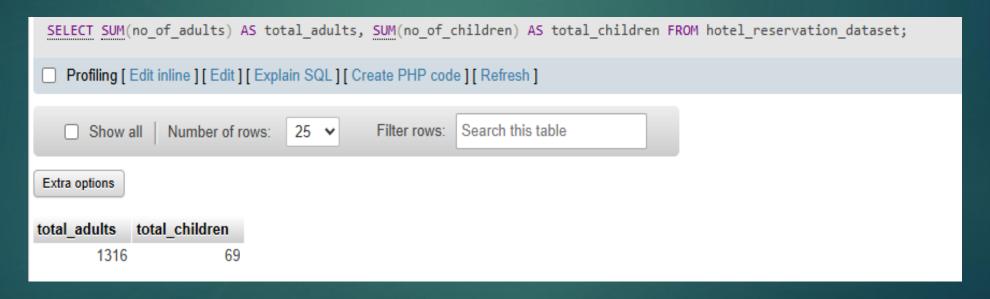
market_segment_type total_resevations

Online 518
```

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

<pre>SELECT COUNT(*) AS confirmed_reservations FROM hotel_reservation_dataset WHERE booking_status = "Not_Canceled";</pre>
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
Extra options
confirmed_reservations
493

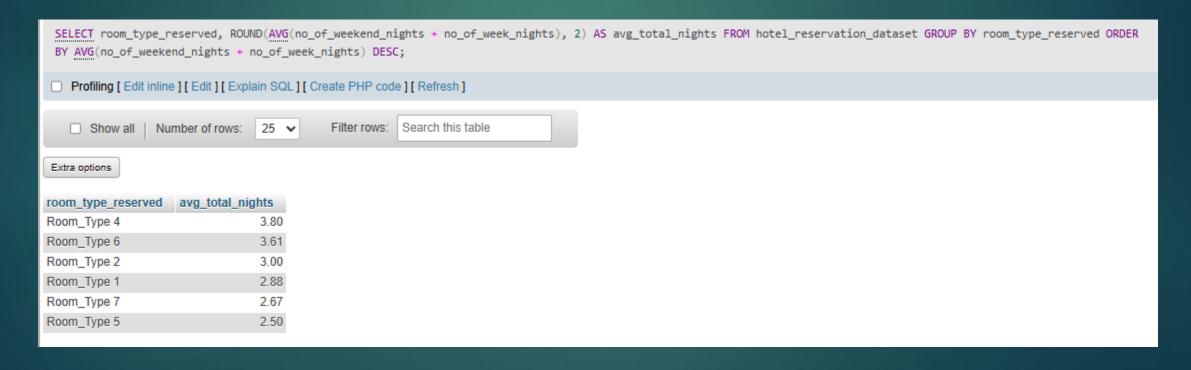
### 11. What is the total number of adults and children across all reservations?



## 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;
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
☐ Show all Number of rows: 25 ✔ Filter rows: Search this table
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.



# 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;

| Profiling [Edit inline][Edit][Explain SQL][Create PHP code][Refresh]

| 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?