

# **HOTEL RESERVATION DATA ANALYSIS USING 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, I worked with a hotel reservation data set to gain insights into guest preferences, booking trends, and other key factors that impact the hotel's operations.**

**I used SQL to query and analyze the data, as well as answer specific questions about the dataset.**



# 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.



# DATA ANALYSIS

## Q.1) ) WHAT IS THE TOTAL NUMBER OF RESERVATIONS IN THE DATASET?

### Query

```
select count(Booking_ID)as total_reservation from dataset;
```

### Output

Result Grid				Filter Rows:
total_reservation				
▶	700			

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

**Query::**

```
select type_of_meal_plan,  
count(type_of_meal_plan) as most_popular_meal_plan  
from dataset  
group by type_of_meal_plan limit 1;
```

**Output**

	type_of_meal_plan	most_popular_meal_plan
	Meal Plan 1	527

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

#### Query

```
select market_segment_type,  
avg(avg_price_per_room)as Average_price_per_room  
from dataset  
group by market_segment_type  
order by Average_price_per_room desc limit 1;
```

#### Output

Result Grid		Filter Rows:	Export:
	market_segment_type	Average_price_per_room	
▶	Online	112.45521235521232	

#### **4. How many reservations were made for the year 2018.**

**Query:**

```
select room_type_reserved as  
most_commonly_booked_room_type,  
count(room_type_reserved)as no_of_bookings  
from dataset  
group by room_type_reserved  
order by no_of_bookings desc limit 1;
```

**Output**

	total_reservation_for_2018
▶	577

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

### Query

```
select room_type_reserved as  
most_commonly_booked_room_type,  
count(room_type_reserved)as no_of_bookings  
from dataset  
group by room_type_reserved  
order by no_of_bookings desc limit 1;
```

### Output

	most_commonly_booked_room_type	no_of_bookings
▶	Room_Type 1	534

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

### Query

```
select sum(no_of_weekend_nights)as reservation_fall_on_weekend_nights  
from dataset  
where no_of_weekend_nights>0;
```

### Output

Result Grid		Filter Rows:
reservation_fall_on_weekend_nights		
▶	596	

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

### Query

```
select max(lead_time)as highest_lead_time,  
min(lead_time) as lowest_lead_time  
from dataset;
```

### Output

	highest_lead_time	lowest_lead_time
▶	443	0

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

### Query

```
select market_segment_type,  
count(market_segment_type) as most_common_market_segment_type  
from dataset  
group by market_segment_type order by most_common_market_segment_type desc limit 1;
```

### Output

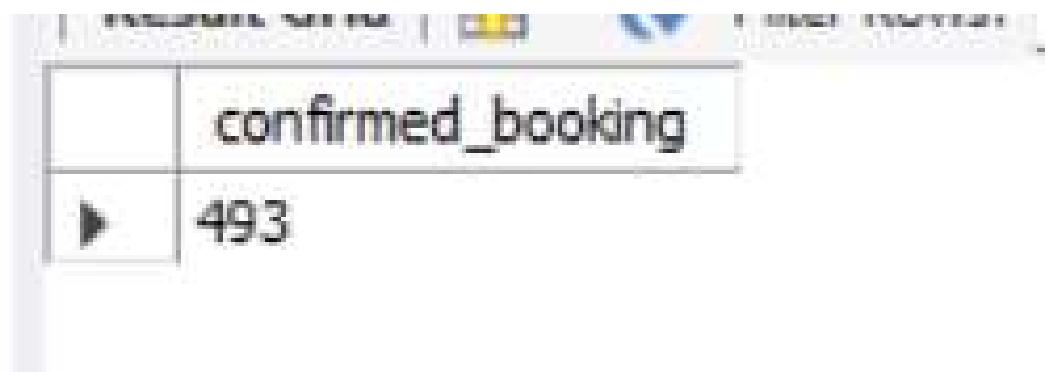
Result Grid		Filter Rows:	Export:	Wrap
	market_segment_type	most_common_market_segment_type		
▶	Online	518		

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

### Query

```
select count(booking_status)as confirmed_booking  
from dataset where  
booking_status = "not_canceled";
```

### Output



	confirmed_booking
▶	493

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

### Query

```
select sum(no_of_adults) as Total_no_of_adults,  
sum(no_of_children)as total_no_of_children  
from dataset;
```

### Output

	Total_no_of_adults	total_no_of_children
▶	1316	69

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

### Query

```
select avg(no_of_weekend_nights)as average_no_of_weekend_nights from dataset  
where no_of_children>0;
```

### Output

	average_no_of_weekend_nights
▶	1.0000

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

### Query

```
select room_type_reserved as room_type,  
avg(no_of_weekend_nights)as Average_no_of_weekend_nights,  
avg(no_of_week_nights)as Average_no_of_week_nights  
from dataset  
group by room_type_reserved order by room_type_reserved asc;
```

### Output

	room_type	Average_no_of_weekend_nights	Average_no_of_week_nights
▶	Room_Type 1	0.7884	2.0899
	Room_Type 2	1.0000	2.0000
	Room_Type 4	1.0923	2.7077
	Room_Type 5	0.0000	2.5000
	Room_Type 6	1.0556	2.5556
	Room_Type 7	1.0000	1.6667

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

#### Query

```
select room_type_reserved as room_type,  
avg(avg_price_per_room) as Avg_room_price  
from dataset where no_of_children>0  
group by room_type_reserved order by Avg_room_price desc;
```

#### Output

	room_type	Avg_room_price
▶	Room_Type 7	187.04
	Room_Type 6	185.32823529411766
	Room_Type 1	123.12291666666665
	Room_Type 2	112.07800000000002
	Room_Type 4	86.32

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

### Query

```
select market_segment_type,  
avg(avg_price_per_room)as Average_price_per_room  
from dataset  
group by market_segment_type  
order by Average_price_per_room desc limit 1;
```

### Output

Result Grid		Filter Rows:	Export:
	market_segment_type	Average_price_per_room	
▶	Online	112.45521235521232	



# THANKS FOR WATCHING

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