



Hotel Reservations SQL Analysis

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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

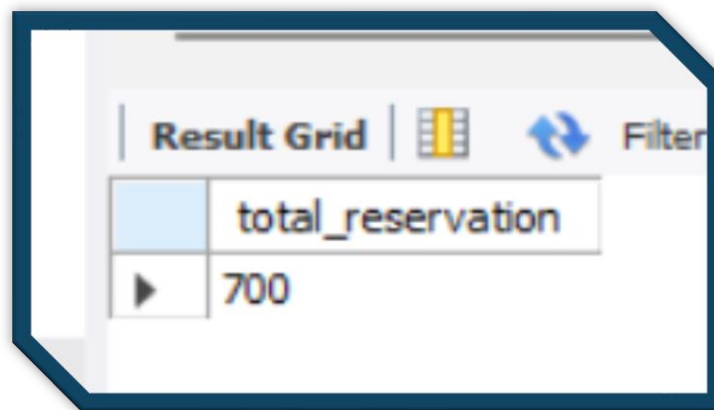
- **Booking_ID:** A unique identifier for each hotel reservation.
- **no_of_adults:** The number of adults in the reservation.
- **no_of_children:** The number of children in the reservation.
- **no_of_weekend_nights:** The number of nights in the reservation that fall on weekends.
- **no_of_week_nights:** 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.



Analysis Query 1

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

```
select count(*) as total_reservation  
from reservation;
```



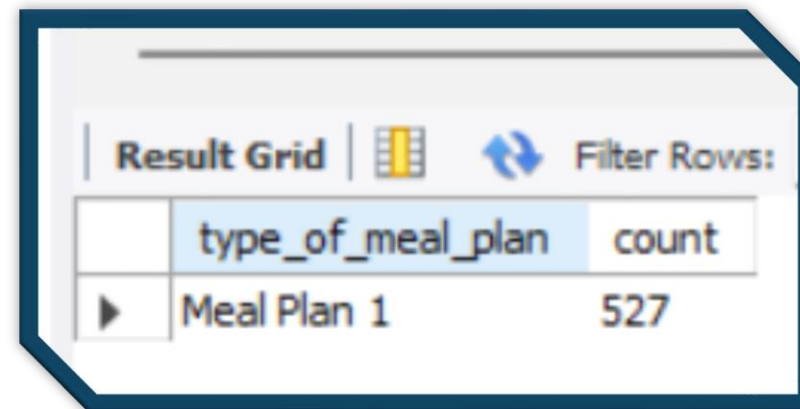
A screenshot of a database query result grid. The grid has a header row with the column name 'total_reservation' and a data row with the value '700'. The grid is titled 'Result Grid' and has a 'Filter' button. The data row is highlighted with a blue background.

	total_reservation
▶	700

Query 2

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

```
select type_of_meal_plan, count(*) as count
from reservation
group by type_of_meal_plan
order by count desc
limit 1;
```



The screenshot shows a database interface with a 'Result Grid' tab. The grid displays the results of the SQL query, showing the 'type_of_meal_plan' and its 'count'. The first row, 'Meal Plan 1', is highlighted, indicating it is the most popular with a count of 527. Above the grid, there are icons for a table, a refresh button, and a 'Filter Rows:' label.

	type_of_meal_plan	count
▶	Meal Plan 1	527

Query 3

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

```
select avg(avg_price_per_room) as avg_price  
from reservation  
where no_of_children > 0;
```

Result Grid		Filter
	avg_price	
	144.56833333333336	

Query 4

-- 4. How many reservations were made for the year 2020 (replace 20 with the desired year)?



```
select count(*) as total_reservations
from reservation
where year(arrival_date) = 2020;
```

Result Grid	
	total_reservations
▶	0

Query 5

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

```
select room_type_reserved, count(*) as no_count
from reservation
group by room_type_reserved
order by no_count desc
limit 1;
```

Result Grid				Filter Rows: <input type="text"/>
	room_type_reserved	no_count		
▶	Room_Type 1	534		

Query 6

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



```
select count(*) as weekend_reservations  
from reservation  
where no_of_weekend_nights > 0;
```

Result Grid		Filter
	weekend_reservations	
▶	383	

Query 7

-- 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 reservation;
```



Result Grid |   Filter Rows:

	highest_lead_time	lowest_lead_time
▶	443	0

Query 8

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

```
select market_segment_type, count(*) as most_common
from reservation
group by market_segment_type
order by most_common desc
limit 1;
```

Result Grid			Filter Rows: <input type="text"/>
	market_segment_type	most_common	
▶	Online	518	

Query 9

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

```
select count(*) as total_confirmed_reservations
from reservation
where booking_status = 'Not_Canceled';
```

Result Grid   Filter Rows:	
	total_confirmed_reservations
▶	493

Query 10

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

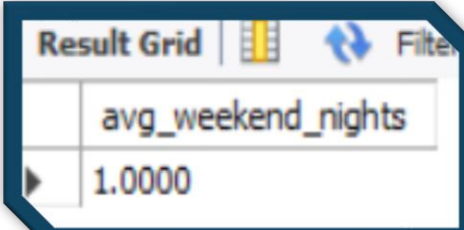
```
select sum(no_of_adults) as total_adults,  
       sum(no_of_children) as total_children  
from reservation;
```

Result Grid			Filter Rows:	
	total_adults	total_children		
▶	1316	69		

Query 11

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

```
select avg(no_of_weekend_nights) as avg_weekend_nights
from reservation
where no_of_children > 0;
```



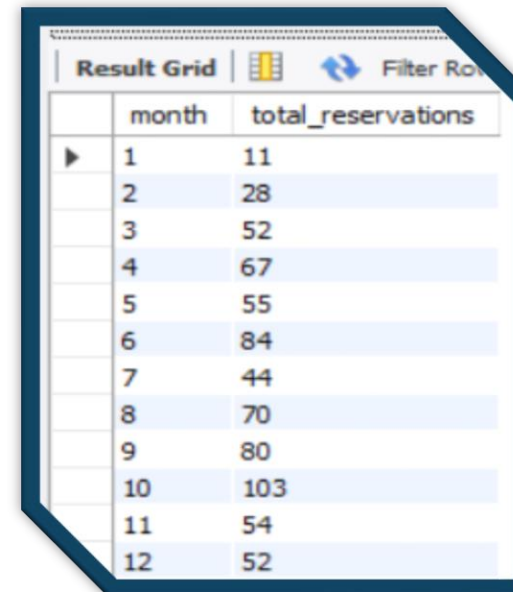
The screenshot shows a 'Result Grid' window with a single column header 'avg_weekend_nights' and one data row containing the value '1.0000'. The window includes standard UI elements like a 'Filter' button and a refresh icon.

avg_weekend_nights
1.0000

Query 12

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

```
select month(str_to_date(arrival_date, '%d-%m-%Y')) as month,  
       count(*) as total_reservations  
from reservation  
group by month  
order by month;
```



The screenshot shows a database interface with a 'Result Grid' tab. It displays a table with two columns: 'month' and 'total_reservations'. The data is as follows:

month	total_reservations
1	11
2	28
3	52
4	67
5	55
6	84
7	44
8	70
9	80
10	103
11	54
12	52

Query 13

-- 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_nights  
from reservation  
group by room_type_reserved;
```

	room_type_reserved	avg_nights
▶	Room_Type 1	2.8783
	Room_Type 4	3.8000
	Room_Type 2	3.0000
	Room_Type 6	3.6111
	Room_Type 5	2.5000

Query 14

-- 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,  
avg(no_of_weekend_nights + no_of_week_nights) as avg_nights  
from reservation  
group by room_type_reserved;
```

	room_type_reserved	avg_nights
▶	Room_Type 1	2.8783
	Room_Type 4	3.8000
	Room_Type 2	3.0000
	Room_Type 6	3.6111
	Room_Type 5	2.5000

Query 15

-- 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  
from reservation  
group by market_segment_type  
order by avg_price desc  
limit 1;
```

market_segment_type	avg_price
Online	112.45521235521232

