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.

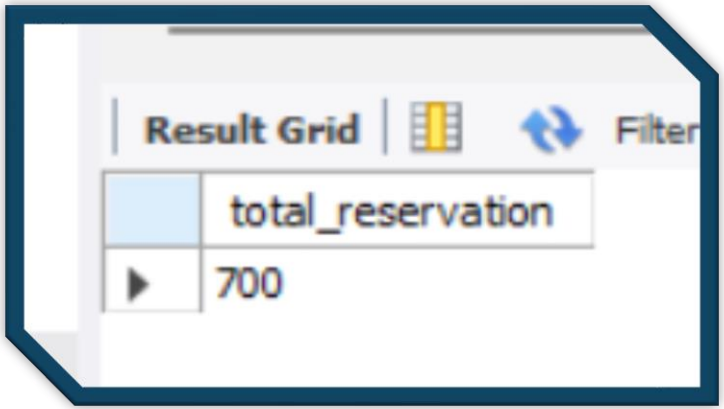
Dataset details

- **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?

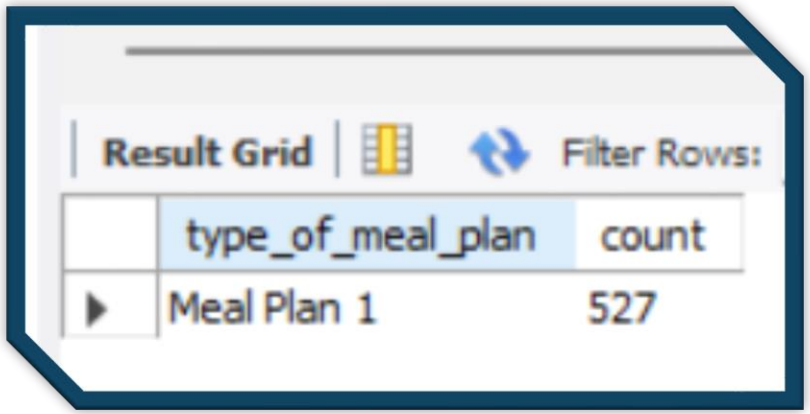
```
select count(*) as total_reservation
from reservation;
```



Query 2

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

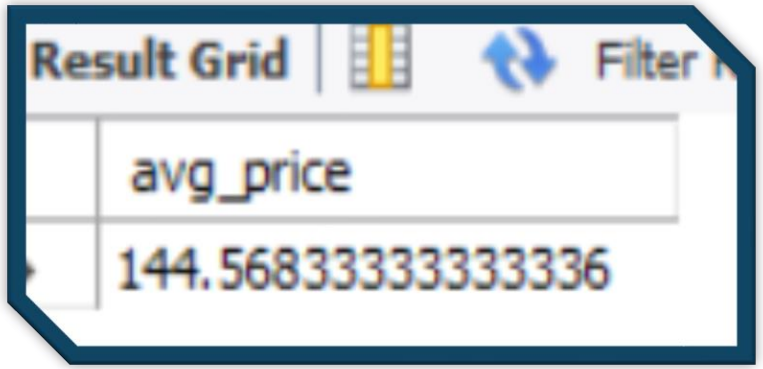
```
select type_of_meal_plan, count(*) as count
from reservation
group by type_of_meal_plan
order by count desc
limit 1;
```



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;
```



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;
```

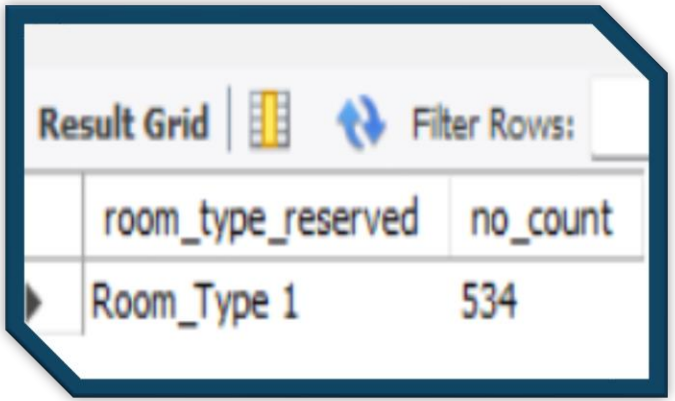
Result Grid

	total_reservations
▶	0

Query 5

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

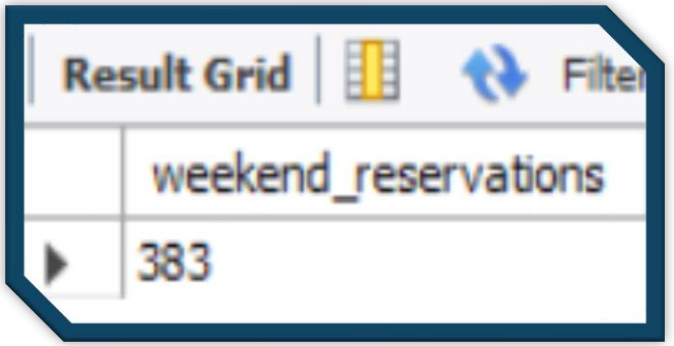
```
select room_type_reserved, count(*) as no_count
from reservation
group by room_type_reserved
order by no_count desc
limit 1;
```



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;
```



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;
```

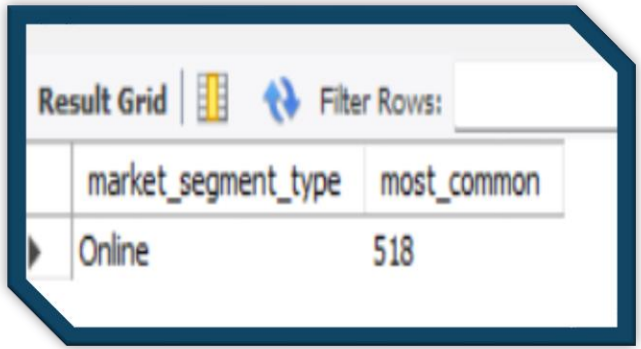
Result Grid | Filter Rows:

highest_lead_time	lowest_lead_time
443	0

Query 8

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

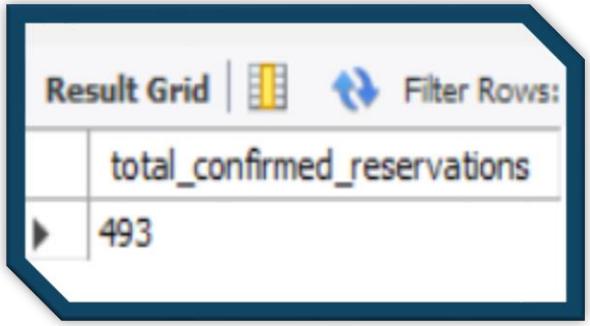
```
select market_segment_type, count(*) as most_common
from reservation
group by market_segment_type
order by most_common desc
limit 1;
```



Query 9

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

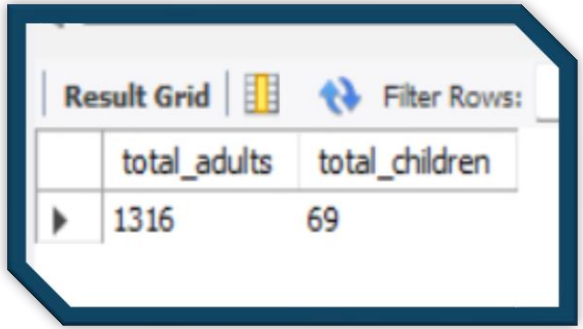
```
select count(*) as total_confirmed_reservations
from reservation
where booking_status = 'Not_Canceled';
```



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;
```



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;
```

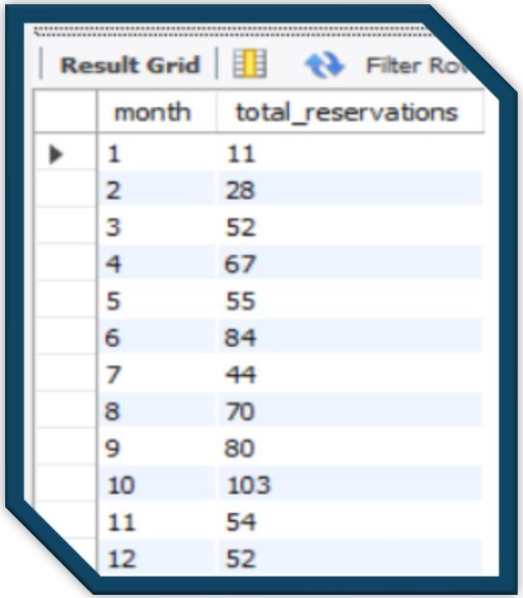
Result Grid

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;
```



Result Grid | Filter Ro

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?

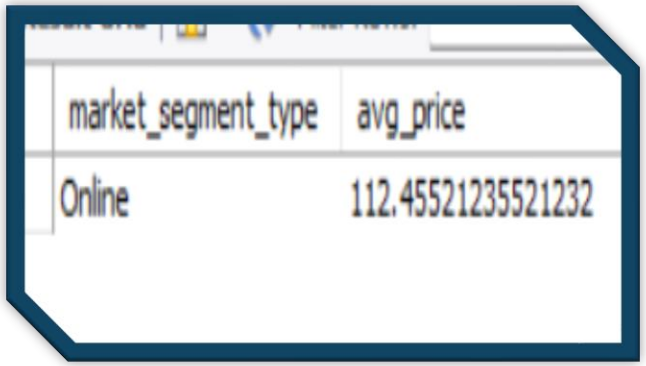
```
select room_type_reserved,
avg(no_of_weekend_nights + no_of_week_nights) as avg_nights
from reservation
group by room_type_reserved;
```

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


Thank You