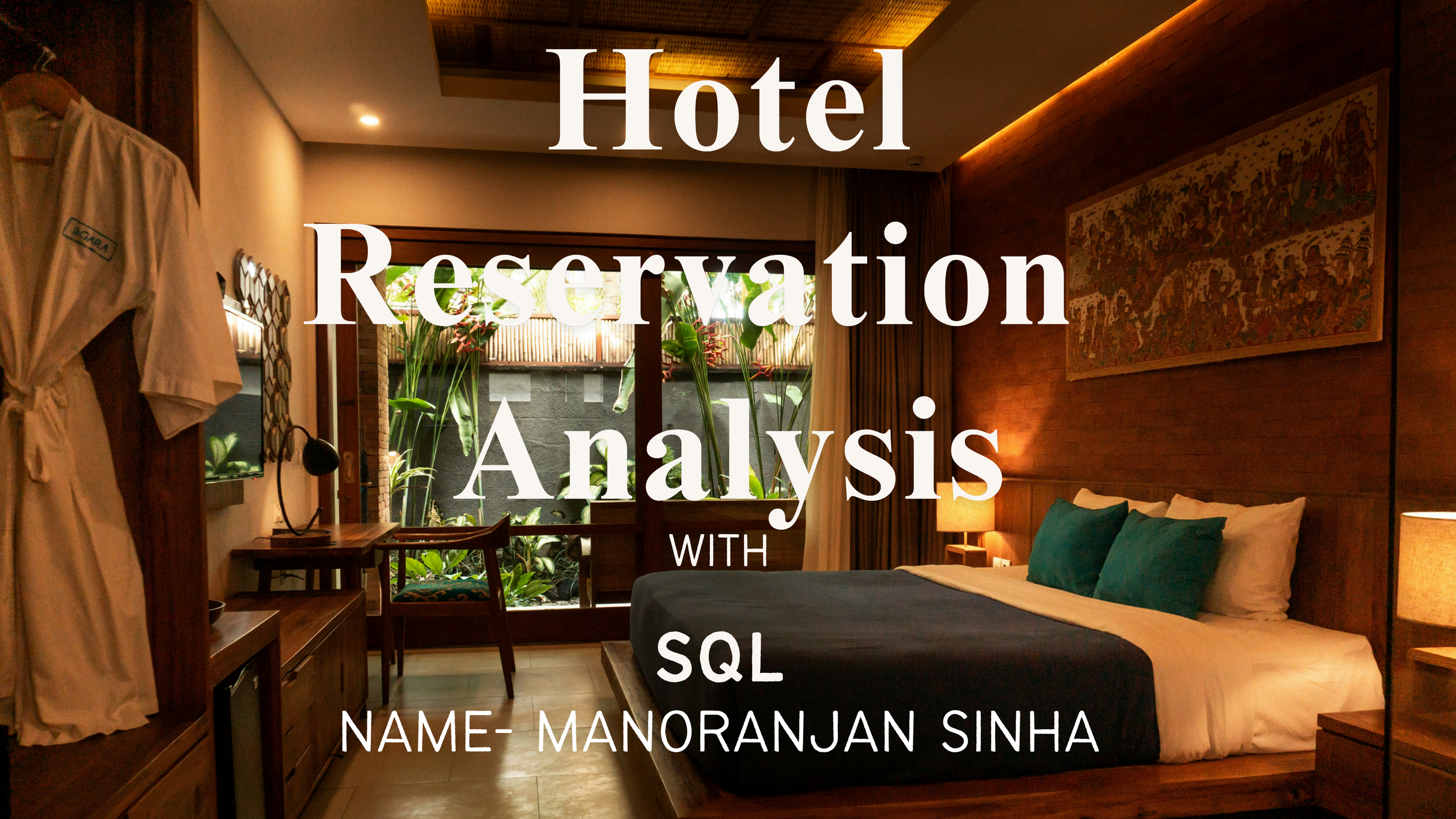

Hotel Reservation Analysis

WITH

SQL

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PROBLEM STATEMENT

The hotel industry relies on data to make informed decisions and provide a better guest experience. In this internship, THIS SQL ANALYSIS with a hotel reservation dataset HELPS TO gain insights into guest preferences, booking trends, and other key factors that impact the hotel's operations.

DATASET OVERVIEW

	MyUnknownColumn	Booking_ID	no_of_adults	no_of_children	no_of_weekend_nights	no_of_week_nights	type_of_meal_plan	room_type_reserved	lead_time	arrival_date	market_segment_
▶	0	INN00001	2	0	1	2	Meal Plan 1	Room_Type 1	224	02-10-2017	Offline
	1	INN00002	2	0	2	3	Not Selected	Room_Type 1	5	06-11-2018	Online
	2	INN00003	1	0	2	1	Meal Plan 1	Room_Type 1	1	28-02-2018	Online
	3	INN00004	2	0	0	2	Meal Plan 1	Room_Type 1	211	20-05-2018	Online
	4	INN00005	2	0	1	1	Not Selected	Room_Type 1	48	11-04-2018	Online
	5	INN00006	2	0	0	2	Meal Plan 2	Room_Type 1	346	13-09-2018	Online
	6	INN00007	2	0	1	3	Meal Plan 1	Room_Type 1	34	15-10-2017	Online
	7	INN00008	2	0	1	3	Meal Plan 1	Room_Type 4	83	26-12-2018	Online
	8	INN00009	3	0	0	4	Meal Plan 1	Room_Type 1	121	06-07-2018	Offline
	9	INN00010	2	0	0	5	Meal Plan 1	Room_Type 4	44	18-10-2018	Online
	10	INN00011	1	0	1	0	Not Selected	Room_Type 1	0	11-09-2018	Online
	11	INN00012	1	0	2	1	Meal Plan 1	Room_Type 4	35	30-04-2018	Online
	12	INN00013	2	0	2	1	Not Selected	Room_Type 1	30	26-11-2018	Online
	13	INN00014	1	0	2	0	Meal Plan 1	Room_Type 1	95	20-11-2018	Online
	14	INN00015	2	0	0	2	Meal Plan 1	Room_Type 1	47	20-10-2017	Online
	15	INN00016	2	0	0	2	Meal Plan 2	Room_Type 1	256	15-06-2018	Online
	16	INN00017	1	0	1	0	Meal Plan 1	Room_Type 1	0	05-10-2017	Offline
	17	INN00018	2	0	1	3	Not Selected	Room_Type 1	1	10-08-2017	Online
	18	INN00019	2	0	2	2	Meal Plan 1	Room_Type 1	99	30-10-2017	Online
	19	INN00020	2	0	1	0	Meal Plan 1	Room_Type 1	12	04-10-2017	Offline
	20	INN00021	2	0	2	2	Meal Plan 1	Room_Type 1	99	30-10-2017	Online

Table:
hotel_reservation_data_new

Columns:

MyUnknownColumn	int
Booking_ID	text
no_of_adults	int
no_of_children	int
no_of_weekend_nights	int
no_of_week_nights	int
type_of_meal_plan	text
room_type_reserved	text
lead_time	int
arrival_date	text
market_segment_type	text
avg_price_per_room	double
booking_status	text
date	text

Q1. What is the total number of reservations in the dataset?

```
1    #Q1
2 •  Select count(Booking_ID) from hotel.hotel_reservation_dataset;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

count(Booking_ID)
700

Q2. Which meal plan is the most popular among guests?

```sql
#Q2
Select type_of_meal_plan ,
count(Booking_ID)
from hotel.hotel_reservation_dataset
group by type_of_meal_plan;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

type_of_meal_plan	count(Booking_ID)
Meal Plan 1	527
Not Selected	109
Meal Plan 2	64

Q3. What is the average price per room for reservations involving children?

```
#Q3
Select Booking_ID,no_of_children,
avg_price_per_room
from hotel.hotel_reservation_dataset
where no_of_children >0;
```

Booking_ID	no_of_children	avg_price_per_room
INN00033	2	82.44
INN00061	2	258
INN00081	2	159.3
INN00096	1	130.5
INN00100	2	156.9
INN00115	2	184.24
INN00118	1	102.83
INN00128	2	190.8
INN00137	1	121.5
INN00170	1	87.4
INN00175	1	150
INN00179	1	87.78
INN00218	1	86.32
INN00227	2	177.65
INN00228	2	200.75
INN00229	1	127
INN00232	1	135.15
INN00235	1	125.1
INN00287	2	187.85
INN00288	2	108.38
INN00293	1	76.5
INN00299	1	104.5

Q4. How many reservations were made for the year 2018 ?

```sql
#Q4
Select count(Booking_ID)
as 'Hotel_Reservation 2018'
from hotel.hotel_reservation_dataset
where year(date)=2018
group by year(date) ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Hotel_Reservation 2018
577

Q5. What is the most commonly booked room type?

```
1     #Q5
2 •   Select room_type_reserved ,
3     count(Booking_ID)
4     as 'No. of Reservation '
5     from hotel.hotel_reservation_dataset
6     group by room_type_reserved;
7
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

room_type_reserved	No. of Reservation
Room_Type 1	534
Room_Type 4	130
Room_Type 2	8
Room_Type 6	18
Room_Type 5	4
Room_Type 7	6

Q6. How many reservations fall on a weekend (no_of_weekend_nights > 0)?

```sql
#Q6
Select count(Booking_ID) as
'No. of Reservaion' from
hotel.hotel_reservation_dataset  where
no_of_weekend_nights > 0;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

No. of Reservaion
383

Q7. What is the highest and lowest lead time for reservations?

```
1      #Q7
2  •   Select max(lead_time) from
3      hotel.hotel_reservation_dataset ;
4
5  •   Select min(lead_time) from
6      hotel.hotel_reservation_dataset ;
7
8
9
```

	max(lead_time)
▶	443

	min(lead_time)
▶	0

Q8. What is the most common market segment type for reservations?

```
1   #Q8
2   Select market_segment_type ,
3   count(Booking_ID)
4   from hotel.hotel_reservation_dataset
5   group by market_segment_type;
6
7
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

market_segment_type	count(Booking_ID)
Offline	140
Online	518
Corporate	27
Aviation	1
Complementary	14

Q9. How many reservations have a booking status of "Confirmed"?

```
1    #Q9
2 •  Select booking_status,
3    count(Booking_ID)
4    from hotel.hotel_reservation_dataset
5    group by booking_status;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

booking_status	count(Booking_ID)
Not_Canceled	493
Canceled	207

Q10. What is the total number of adults and children across all reservations?

```
2 •  Select sum(no_of_adults) from hotel.hotel_reservation_dataset ;
3 •  Select sum(no_of_children) from hotel.hotel_reservation_dataset;
```

	sum(no_of_adults)
▶	1316

	sum(no_of_children)
▶	69

Q11.What is the average number of weekend nights for reservations involving children?

```sql
#Q11
Select avg(no_of_week_nights)
from hotel.hotel_reservation_dataset
where no_of_children>0;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg(no_of_week_nights)
2.3125

Q12 .How many reservations were made in each month of the year?

```sql
#Q12
Select month(date)
as 'Month_of_Year' ,
count(Booking_ID)
as 'No. of Reservation'
from hotel.hotel_reservation_dataset
group by month(date);
```

Month_of_Year	No. of Reservation
2	43
6	87
5	61
11	50
9	67
10	95
12	42
4	48
3	60
7	42
1	29
8	76

Q13 .What is the average number of nights (both weekend and weekday) spent by guests for each room type?

```
1    #Q13
2 •  Select room_type_reserved,
3    avg(no_of_weekend_nights),
4    avg(no_of_week_nights)
5    from hotel.hotel_reservation_dataset
6    group by room_type_reserved;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

room_type_reserved	avg(no_of_weekend_nights)	avg(no_of_week_nights)
Room_Type 1	0.7884	2.0899
Room_Type 4	1.0923	2.7077
Room_Type 2	1.0000	2.0000
Room_Type 6	1.0556	2.5556
Room_Type 5	0.0000	2.5000
Room_Type 7	1.0000	1.6667

Q14. For reservations involving children, what is the most common room type, and what is the average price for that room type?

```sql
#Q14
Select room_type_reserved,
avg(avg_price_per_room)
as 'Average Price of Room',
count(Booking_ID)
as 'No. of Reservation'
from hotel.hotel_reservation_dataset
where no_of_children>0
group by room_type_reserved;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

room_type_reserved	Average Price of Room	No. of Reservation
Room_Type 2	112.07800000000002	5
Room_Type 6	185.32823529411766	17
Room_Type 1	123.12291666666665	24
Room_Type 4	86.32	1
Room_Type 7	187.04	1

Q15. Find the market segment type that generates the highest average price per room.

```sql
#Q15
Select market_segment_type,
avg(avg_price_per_room)
as 'Average Room Price'
from hotel.hotel_reservation_dataset
group by market_segment_type;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

market_segment_type	avg(avg_price_per_room)
Offline	89.98171428571426
Online	112.45521235521232
Corporate	82.4011111111111
Aviation	110
Complementary	2.5357142857142856