

HOTEL RESERVATION ANALYSIS USING SQL

Presented by: Khadijat Abubakar

Batch – MIP-DA-10



METHODOLOGY

CREATE
DATABASE

CREATE TABLE

IMPORT
DATASET

PERFORM
ANALYSIS

GET RESULT

DATASET DETAILS

The dataset includes the following column

- **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.
-

QUESTIONS ANSWERED USING SQL

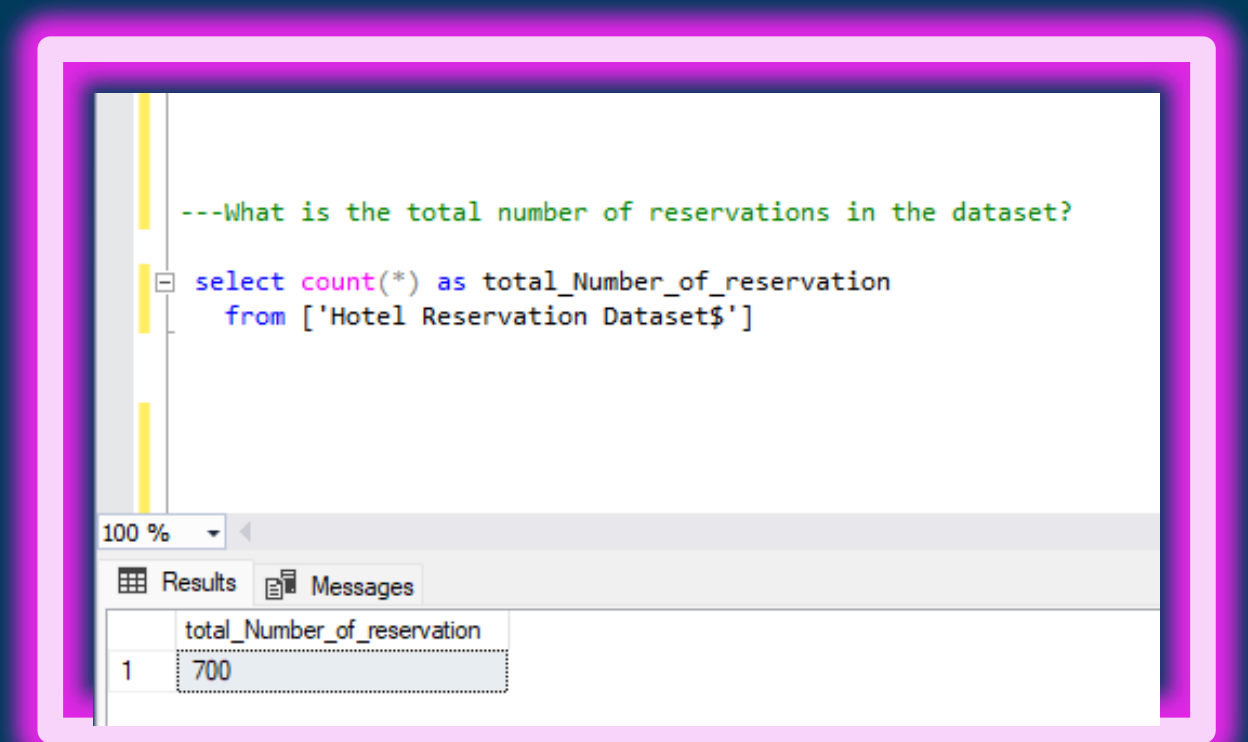


QUESTION 1

what is the total number of reservation in the dataset

QUERY

```
select count(*) as total_number_of_reservation  
from hotel reservation dataset
```



The screenshot shows a SQL query execution interface. The query is: `---What is the total number of reservations in the dataset?`
`select count(*) as total_Number_of_reservation`
`from ['Hotel Reservation Dataset$']`

The interface includes a zoom level of 100 % and tabs for Results and Messages. The Results tab is active, showing a single row with the column `total_Number_of_reservation` and the value `700`.

	total_Number_of_reservation
1	700

QUESTION 2

which meal plan is the most popular among guest

Query

```
select top 1 type_of_meal_plan, count(*) as most_popular_meal_plan
from hotel reservation
group by type_of_meal_plan
order by most_popular_meal_plan desc
```

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

```
Select top 1 Type_of_meal_plan, COUNT(*) as most_popular_meal_plan
from ['Hotel Reservation Dataset$']
GROUP BY type_of_meal_plan
order by most_popular_meal_plan desc
```

Results Messages

Type_of_meal_plan	most_popular_meal_plan
Meal Plan 1	527

QUESTION 3

what is the average price per room for reservation involving children

Query

```
select avg(avg_price_per_room) as avg_price_involving_children  
from hotel reservation  
where no_of_children > 0
```

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

```
select AVG(avg_price_per_room) as avg_price_involving_children from  
['Hotel Reservation Dataset$']  
where no_of_children>0
```

Results Messages

avg_price_involving_children

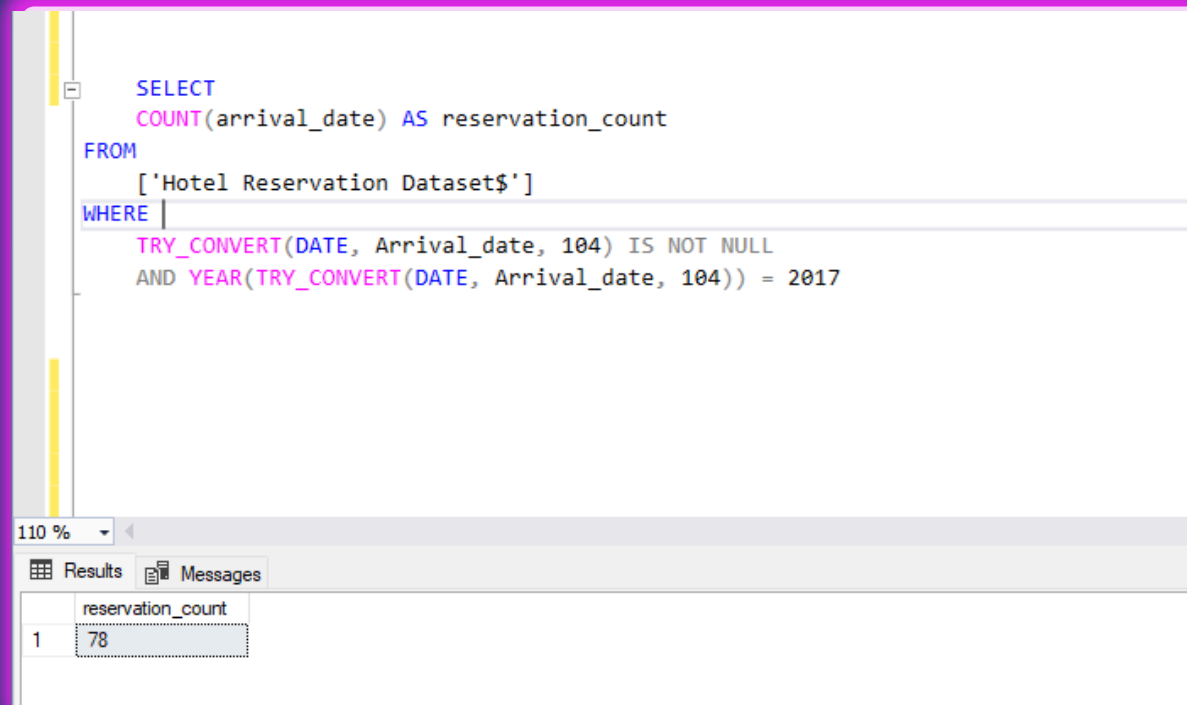
144.568333333333

QUESTION 4

How many reservations were made for the year 20XX (replace XX with the desired year)?

Query

```
SELECT
COUNT(arrival_date) AS reservation_count
FROM
['Hotel Reservation Dataset$']
WHERE
TRY_CONVERT(DATE, Arrival_date, 104) IS NOT NULL
AND YEAR(TRY_CONVERT(DATE, Arrival_date, 104)) = 2017
```

A screenshot of a SQL query editor and its results. The query editor shows a SQL query to count reservations for the year 2017. The results window at the bottom shows a single row with the reservation count of 78.

```
SELECT
COUNT(arrival_date) AS reservation_count
FROM
['Hotel Reservation Dataset$']
WHERE
TRY_CONVERT(DATE, Arrival_date, 104) IS NOT NULL
AND YEAR(TRY_CONVERT(DATE, Arrival_date, 104)) = 2017
```

110 %

Results Messages

	reservation_count
1	78

QUESTION 5

what is the most commonly booked room type

Query

```
select top 1 room_type_reserved,count(*) as most_popular_room_type  
from hotel_reservation  
group by room_type_reserved  
order by most_popular_room_type
```

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

```
select top 1 room_type_reserved, COUNT(*) as most_popular_room_type  
from ['Hotel Reservation Dataset$']  
group by room_type_reserved  
order by most_popular_room_type desc
```

Results Messages

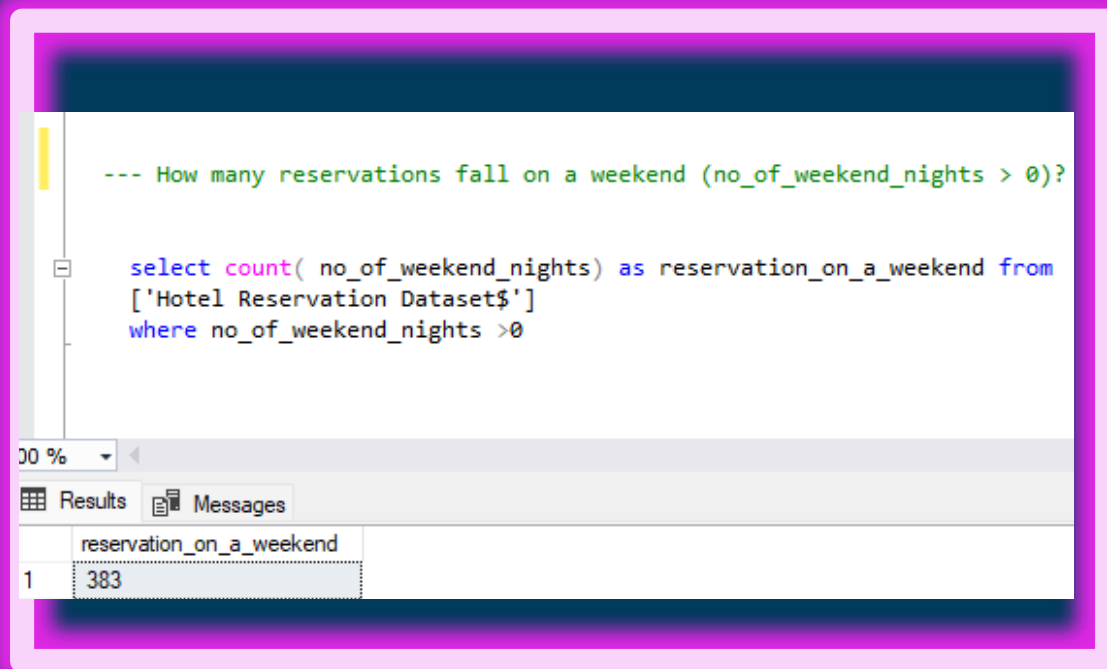
room_type_reserved	most_popular_room_type
Room_Type 1	534

QUESTION 6

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

Query

```
select count( no_of_weekend_nights) as reservation_on_a_weekend from  
    ['Hotel Reservation Dataset$']  
where no_of_weekend_nights >0
```



The screenshot shows a SQL query execution interface. The query is displayed in a text area, and the results are shown in a table below. The query is:

```
--- How many reservations fall on a weekend (no_of_weekend_nights > 0)?  
  
select count( no_of_weekend_nights) as reservation_on_a_weekend from  
    ['Hotel Reservation Dataset$']  
where no_of_weekend_nights >0
```

The results table has one column, 'reservation_on_a_weekend', and one row with the value 383.

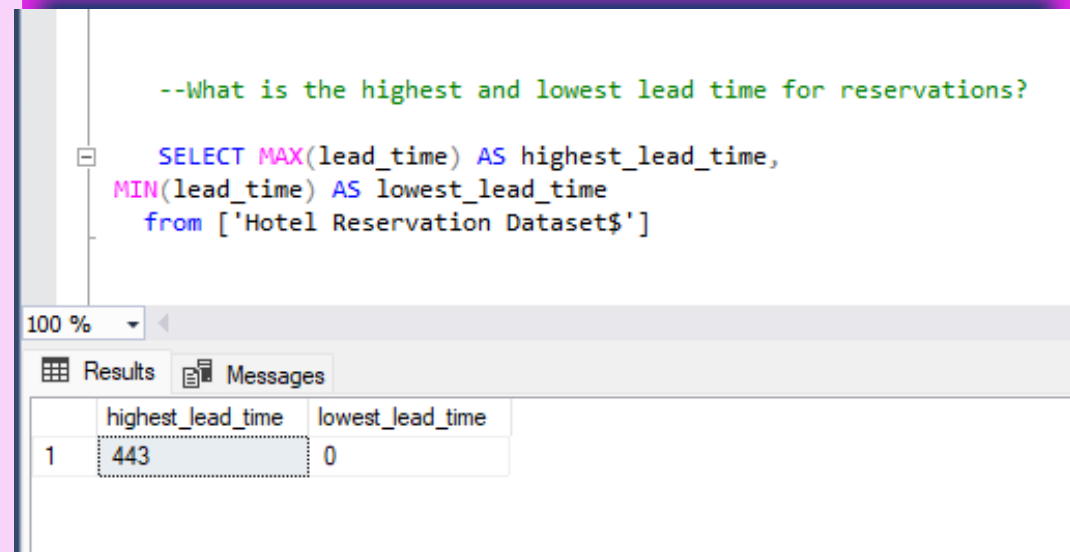
	reservation_on_a_weekend
1	383

QUESTION 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 ['Hotel Reservation Dataset$']
```



The screenshot shows a SQL query execution window. At the top, a comment reads: `--What is the highest and lowest lead time for reservations?`. Below it is the SQL query: `SELECT MAX(lead_time) AS highest_lead_time, MIN(lead_time) AS lowest_lead_time from ['Hotel Reservation Dataset$']`. The interface includes a zoom level of 100% and tabs for 'Results' and 'Messages'. The 'Results' tab is active, displaying a table with two columns: 'highest_lead_time' and 'lowest_lead_time'. The first row of data shows the values 443 and 0 respectively.

	highest_lead_time	lowest_lead_time
1	443	0

QUESTION 8

What is the most common market segment type for reservations?

Query

```
SELECT top 1 market_segment_type, COUNT(*) as count_reservation  
FROM ['Hotel Reservation Dataset$']  
GROUP BY market_segment_type  
ORDER BY count_reservation DESC
```

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

```
SELECT top 1 market_segment_type, COUNT(*) as count_reservation  
FROM ['Hotel Reservation Dataset$']  
GROUP BY market_segment_type  
ORDER BY count_reservation DESC
```

100 %

Results Messages

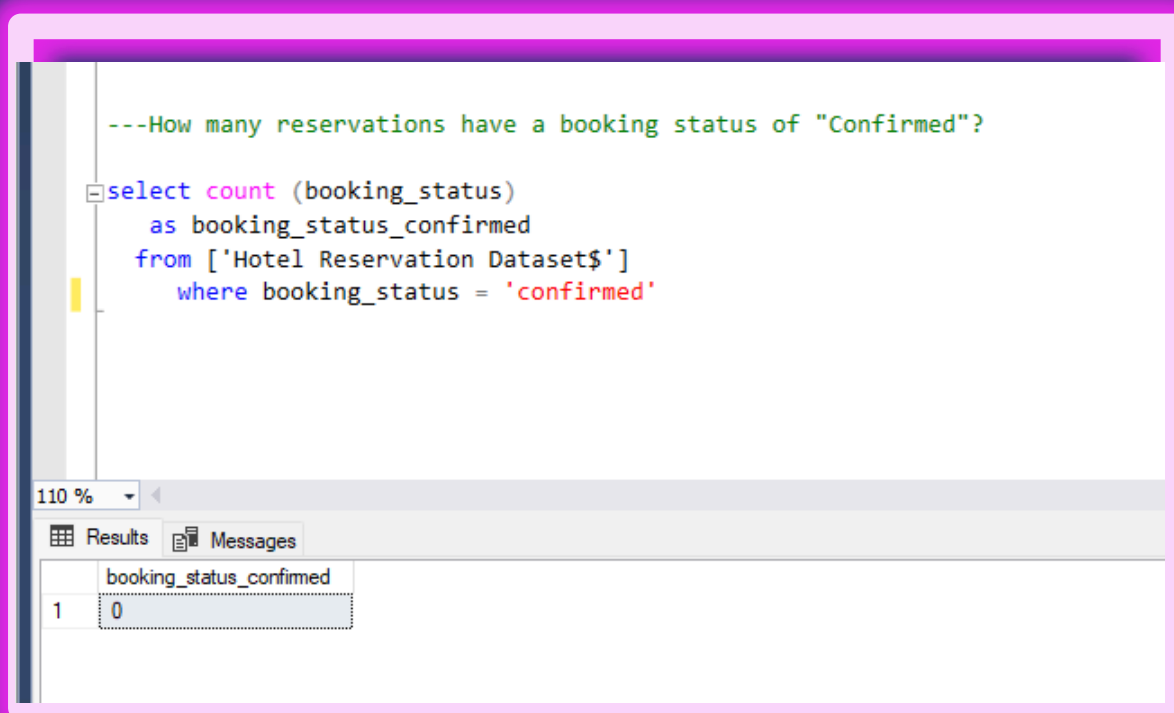
	market_segment_type	count_reservation
1	Online	518

QUESTION 9

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

Query

```
select count (booking_status)
  as booking_status_confirmed
from ['Hotel Reservation Dataset$']
  where booking_status = 'not_canceled'
```

A screenshot of a SQL query editor and its results window. The query editor shows a SQL query with a comment at the top: "--How many reservations have a booking status of 'Confirmed'?". The query itself is: "select count (booking_status) as booking_status_confirmed from ['Hotel Reservation Dataset\$'] where booking_status = 'confirmed'". The results window at the bottom shows a table with one column, "booking_status_confirmed", and one row with the value "0". The interface includes a zoom level of "110 %" and tabs for "Results" and "Messages".

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

select count (booking_status)
  as booking_status_confirmed
from ['Hotel Reservation Dataset$']
  where booking_status = 'confirmed'
```

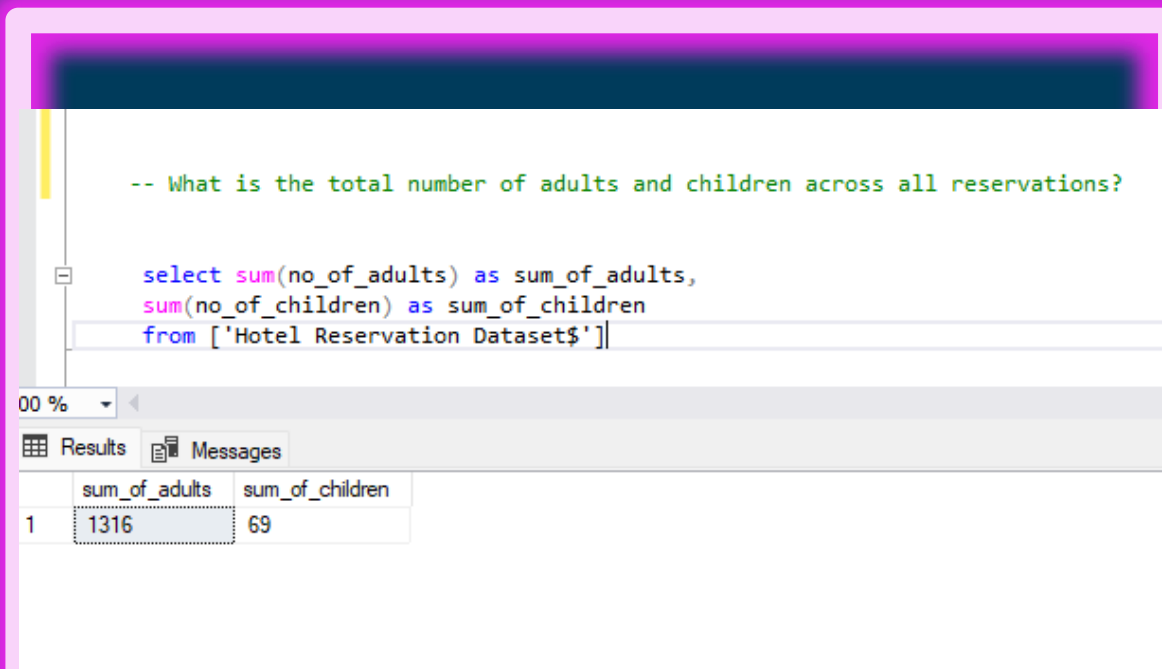
	booking_status_confirmed
1	0

QUESTION 10

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

Query

```
select sum(no_of_adults) as sum_of_adults,  
sum(no_of_children) as sum_of_children  
from ['Hotel Reservation Dataset$']
```



The screenshot shows a SQL query execution interface. At the top, a comment reads: `-- What is the total number of adults and children across all reservations?`. Below it, the SQL query is displayed: `select sum(no_of_adults) as sum_of_adults, sum(no_of_children) as sum_of_children from ['Hotel Reservation Dataset$']`. The interface includes a progress bar at 00% and tabs for 'Results' and 'Messages'. The 'Results' tab is active, showing a table with two columns: 'sum_of_adults' and 'sum_of_children'. The first row of data shows a sum of 1316 for adults and 69 for children.

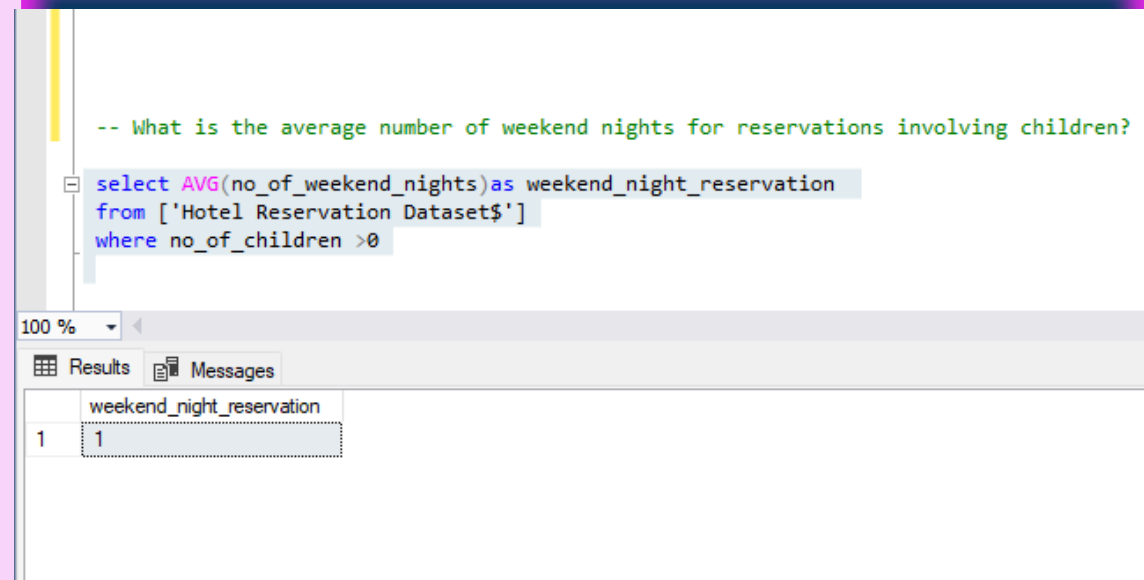
	sum_of_adults	sum_of_children
1	1316	69

QUESTION 11

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

Query

```
select AVG(no_of_weekend_nights)as weekend_night_reservation
from ['Hotel Reservation Dataset$']
where no_of_children >0
```

A screenshot of a SQL query editor and its results. The query editor shows a comment line followed by a SQL query. The results window below shows a single row with the value 1. The entire screenshot is framed with a thick pink border.

```
-- What is the average number of weekend nights for reservations involving children?
select AVG(no_of_weekend_nights)as weekend_night_reservation
from ['Hotel Reservation Dataset$']
where no_of_children >0
```

100 %

Results Messages

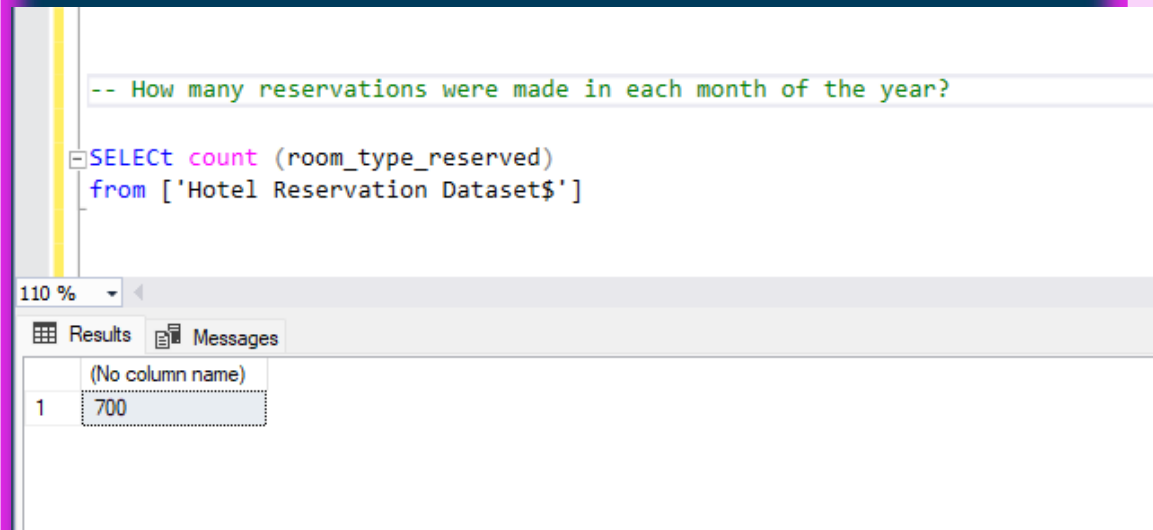
	weekend_night_reservation
1	1

QUESTION 12

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

Query

```
select count (room_type_reserved)  
from ['Hotel Reservation Dataset$']
```

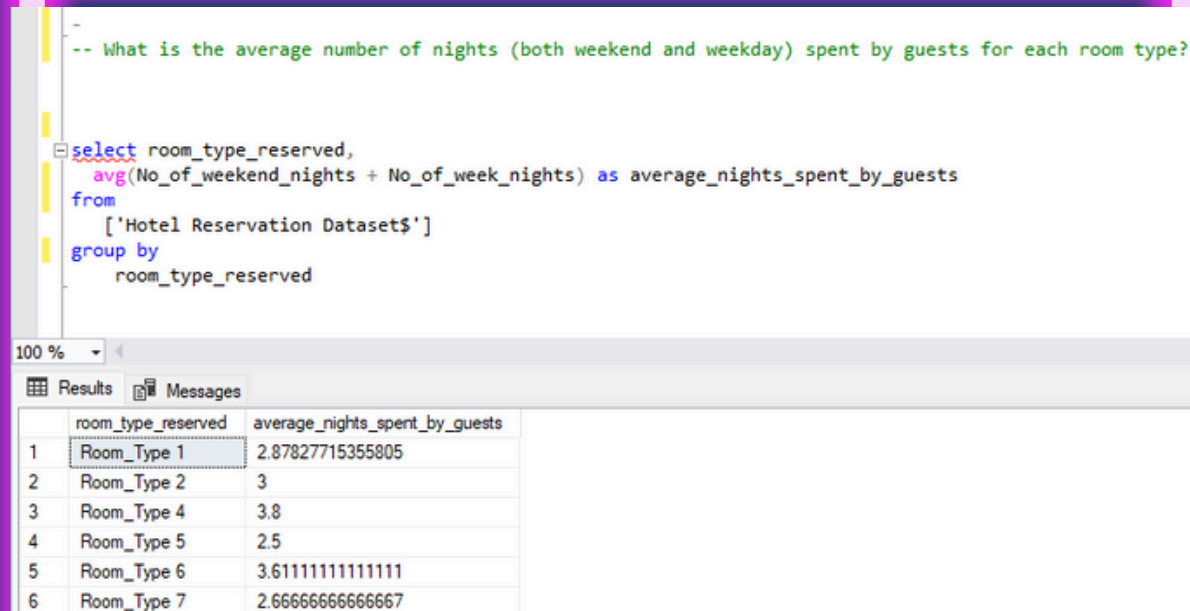


QUESTION 13

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

Query

```
select room_type_reserved,  
       avg(No_of_weekend_nights + No_of_week_nights) as  
       average_nights_spent_by_guests  
from  
     ['Hotel Reservation Dataset$']  
group by  
       room_type_reserved
```



```
-- 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 average_nights_spent_by_guests  
from  
     ['Hotel Reservation Dataset$']  
group by  
       room_type_reserved
```

	room_type_reserved	average_nights_spent_by_guests
1	Room_Type 1	2.87827715355805
2	Room_Type 2	3
3	Room_Type 4	3.8
4	Room_Type 5	2.5
5	Room_Type 6	3.61111111111111
6	Room_Type 7	2.66666666666667

QUESTION 14

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),  
avg(avg_price_per_room) as avg_price_per_room  
from ['Hotel Reservation Dataset$']  
where no_of_children >0  
group by room_type_reserved
```

```
-- 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(avg_price_per_room) as avg_price_per_room  
from ['Hotel Reservation Dataset$']  
where no_of_children >0  
group by room_type_reserved
```

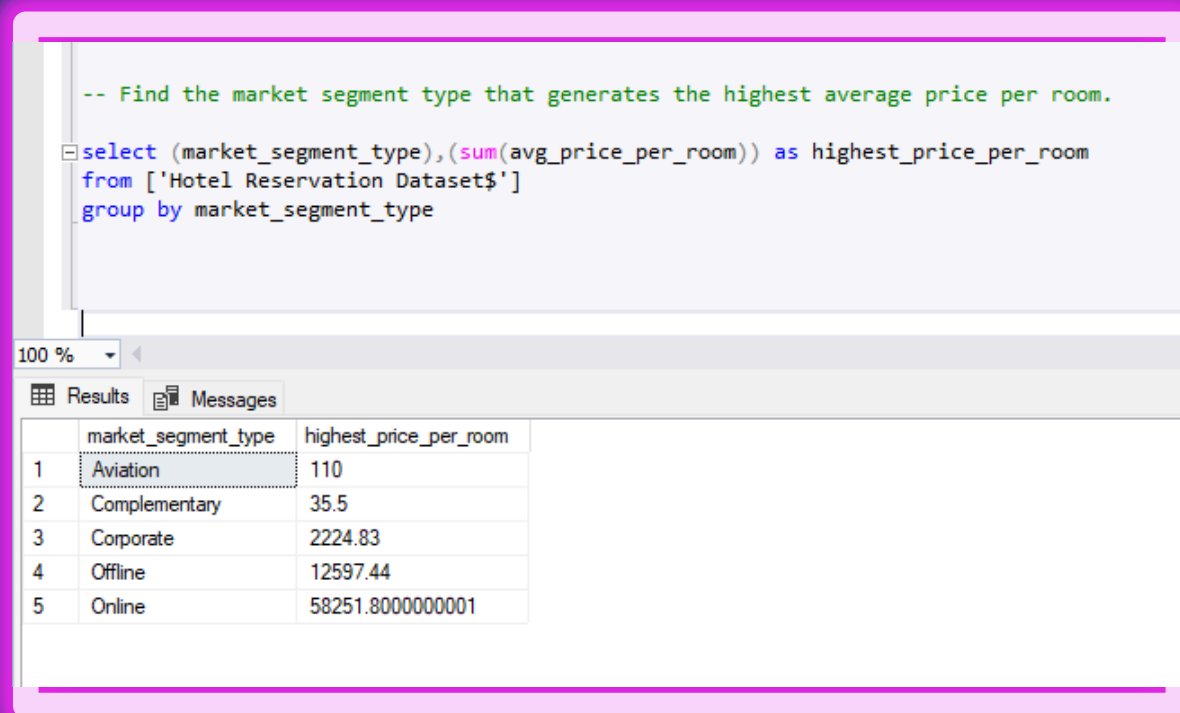
Results	
room_type_reserved	avg_price_per_room
Room_Type 1	123.122916666667
Room_Type 2	112.078
Room_Type 4	86.32
Room_Type 6	185.328235294118
Room_Type 7	187.04

QUESTION 15

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

Query

```
select (market_segment_type),(sum(avg_price_per_room)) as highest_price_per_room  
from ['Hotel Reservation Dataset$']  
group by market_segment_type
```



The screenshot shows a SQL query editor with a query window and a results pane. The query window contains the following SQL code:

```
-- Find the market segment type that generates the highest average price per room.  
select (market_segment_type),(sum(avg_price_per_room)) as highest_price_per_room  
from ['Hotel Reservation Dataset$']  
group by market_segment_type
```

The results pane shows a table with two columns: 'market_segment_type' and 'highest_price_per_room'. The table contains five rows of data:

	market_segment_type	highest_price_per_room
1	Aviation	110
2	Complementary	35.5
3	Corporate	2224.83
4	Offline	12597.44
5	Online	58251.8000000001

Thank you for
your time!
