# **SQL Project on Hotel Reservations Data**

#### **Data Description -**

This project focuses on building a hotel reservation system and analysing reservation data using a structured SQL database. The data includes a variety of attributes about hotel reservations, customer details, booking status, and other related metrics. Below is a detailed description of each field in the dataset and the potential insights that can be extracted through SQL queries.

# Queries -

#### 1. Select all reservations.

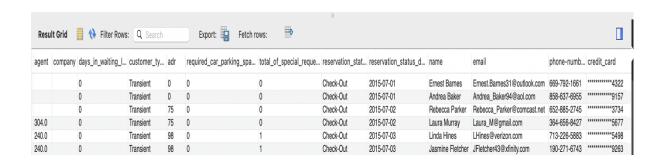
**SELECT** 

\*

**FROM** 

hotel;

# Output -



**Objective** – Getting all the reservations of the hotel.

#### 2. Count total number of reservations.

```
SELECT
COUNT (*)
FROM
hotel;
```

### Output -

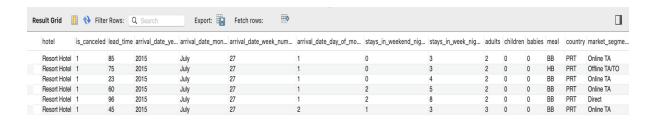
Result Grid	Export:
Total_count_of_Reservations	
119386	

**Objective** - Getting the total count of reservation in the hotel.

#### 3. Get all canceled reservations.

```
SELECT
 *
FROM
 hotel
WHERE
 is_canceled = 1;
```

# Output -



**Objective** - List of all canceled reservations in the hotel.

### 4. Find reservations with lead time greater than 100 days.

```
SELECT

*
FROM
hotel
WHERE
lead time > 100;
```

# Output -

Result Grid # No Filter Rows: Q Search Export: Fetch rows:														
hotel	is_canceled	lead_time	arrival_date_ye	arrival_date_mon	arrival_date_week_num	arrival_date_day_of_mo	stays_in_weekend_nig	stays_in_week_nig	adults	children	babies	meal	country	market_segme
Resort Hotel	0	342	2015	July	27	1	0	0	2	0	0	BB	PRT	Direct
Resort Hotel	0	737	2015	July	27	1	0	0	2	0	0	BB	PRT	Direct
Resort Hotel	0	127	2015	July	27	1	2	5	2	0	0	HB	GBR	Offline TA/TO
Resort Hotel	0	118	2015	July	27	1	4	10	1	0	0	BB		Direct
Resort Hotel	0	107	2015	July	27	2	2	5	2	0	0	BB	PRT	Online TA
Resort Hotel	0	113	2015	July	27	2	2	5	2	0	0	BB	NOR	Offline TA/TO
Resort Hotel	0	113	2015	July	27	2	2	5	2	0	0	BB	NOR	Offline TA/TO

**Objective** – Getting list of reservation where lead time is greater than 100.

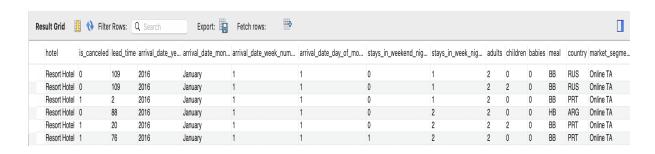
# 5. Get reservations for a specific year (e.g., 2023)

```
SELECT

*

FROM
hotel
WHERE
arrival date year = 2016;
```

### Output -

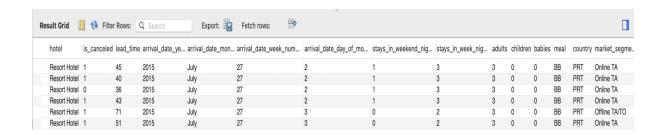


**Objective** – Getting list of reservation for a specific year 2016.

#### 6. Find reservations with more than 2 adults.

\*
FROM
hotel
WHERE
adults > 2;

# Output -

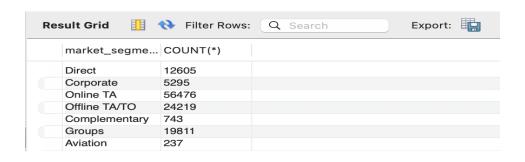


**Objective** – Getting list of reservations where adults more than 2.

# 7. Count reservations by market segment.

SELECT
market\_segment, COUNT(\*)
FROM
hotel
GROUP BY market\_segment;

#### Output -



**Objective** – Getting count of reservations by market segment.

#### 8. Find reservations where the customer requested car parking.

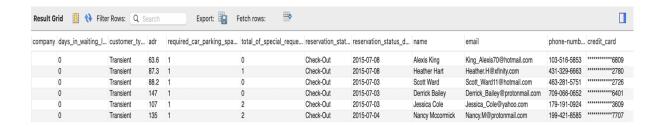
```
SELECT

*

FROM
hotel

WHERE
required car parking spaces = 1;
```

#### Output -

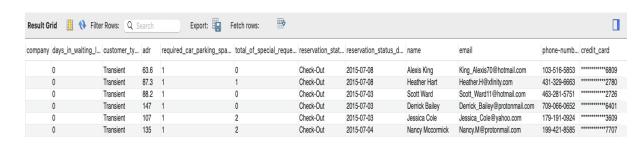


**Objective** – List of reservations having parking request.

#### 9. Find guests who made special requests (more than 1 request).

```
SELECT
 *
FROM
 hotel
WHERE
 total of special_requests > 1;
```

### Output -



**Objective** – List of all reservations where guest made a special request more than 1.

#### 10. List all repeated guests.

```
SELECT

*

FROM
hotel
WHERE
is repeated guest = 1;
```

# Output -

Result Grid	Filter Rows:	Q Search Exp	ort: Fetch rows:	<b>*</b>							
is_repeated_gu	previous_cancellatio	previous_bookings_not_can	ce reserved_room_ty	. assigned_room_ty	booking_chang	deposit_ty	agent	company	days_in_waiting_l	customer_ty	adr
1	0	1	Е	E	0	No Deposit	5.0		0	Transient	0
1	1	0	A	A	0	No Deposit	156.0		0	Contract	90.95
1	1	0	E	E	0	No Deposit	240.0		0	Transient	66
1	1	0	A	A	0	No Deposit	156.0		0	Contract	55.68
1	1	0	D	D	0	No Deposit	250.0		0	Transient	130.9
1	1	0	A	A	0	No Deposit	250.0		0	Transient	8

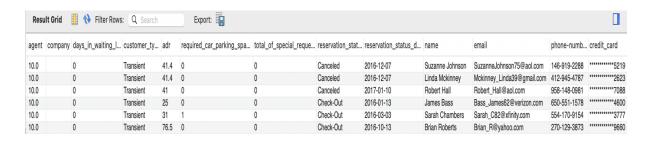
**Objective** – The list of all reservation of repeated guests.

# 11. Find reservations made through a specific agent (e.g., agent id 10).

```
SELECT

*
FROM
hotel
WHERE
agent = 10;
```

### Output -



**Objective** – Getting the reservation who made through specific agent.

# 12. Find all guests who canceled previous reservations but kept at least one (non-canceled).

```
SELECT

*

FROM
hotel
WHERE
previous_cancellations > 0
AND previous bookings not canceled > 0;
```

### Output -

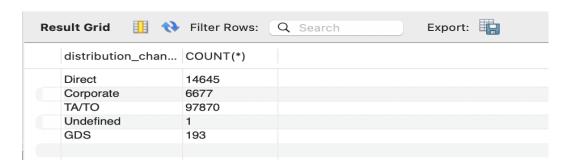


**Objective** – List of all guests who canceled previous reservations but kept at least one (non-canceled).

# 13.Get the number of bookings per distribution channel.

```
SELECT distribution_channel, COUNT(*)
FROM hotel
GROUP BY distribution channel;
```

# Output -



Objective - Getting the count of bookings per distribution channel.

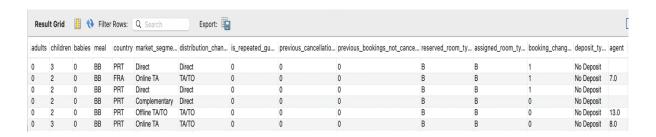
#### 14. Find reservations with children but no adults.

```
SELECT

*

FROM
hotel
WHERE
children >= 1 AND adults = 0;
```

#### Output -

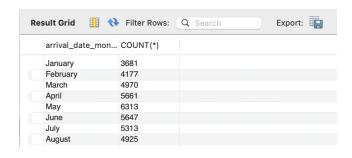


**Objective** – List of reservation where having children but no adults.

#### 15. Get the total number of bookings per month for a specific year.

```
SELECT
arrival_date_month, COUNT(*)
FROM
hotel
WHERE
arrival_date_year = 2017
GROUP BY arrival_date_month;
```

#### Output -



**Objective** - Getting the total number of bookings per month for a specific year.

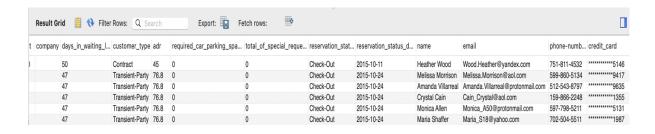
#### 16. Find reservations with more than 7 days in waiting list.

```
SELECT

*

FROM
hotel
WHERE
days_in_waiting_list > 7;
```

#### Output -

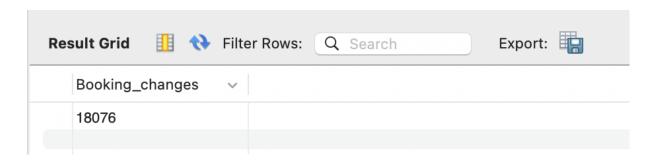


**Objective** – The list of reservations having waiting more than 7 days.

# 17. Count the reservations that had booking changes.

```
SELECT
COUNT(booking_changes) AS Booking_changes
FROM
hotel
WHERE
booking_changes > 0;
```

# Output -



Objective – The total count of reservation bookings had changes.

#### 18. Find guests who booked a specific room type (e.g., room type 'A').

**SELECT** 

\*

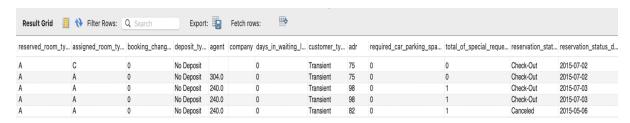
**FROM** 

hotel

**WHERE** 

reserved\_room\_type = 'A';

#### Output -



**Objective** – All the reservations having special bookings of room.

# 19. Find guests whose assigned room type is different from reserved room type.

**SELECT** 

\*

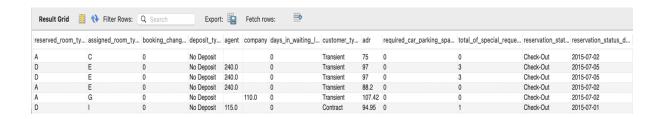
**FROM** 

hotel

**WHERE** 

reserved\_room\_type != assigned\_room\_type;

#### Output -



**Objective** – List of guests whose assigned room type is different from reserved room type.

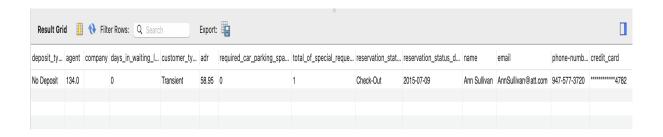
#### 20. Get reservation details for a specific guest using their email.

```
SELECT

*

FROM
hotel
WHERE
email = 'AnnSullivan@att.com';
```

#### Output -



**Objective** - Getting reservation details for a specific guest using their email.

### **Conclusion** –

This SQL project can be extended to create dashboards for hotel management, providing key insights to improve operations, customer service, and business strategy.

By applying various SQL techniques, we were able to extract meaningful insights, such as booking patterns, customer behaviour, revenue generation, and occupancy trends. These insights can be used by hotel management to make informed decisions regarding pricing strategies, marketing efforts, and operational efficiency.

Thank You..

