

Hotel Reservation Analysis

Using SQL

Insights into Guest Preferences and Booking Trends



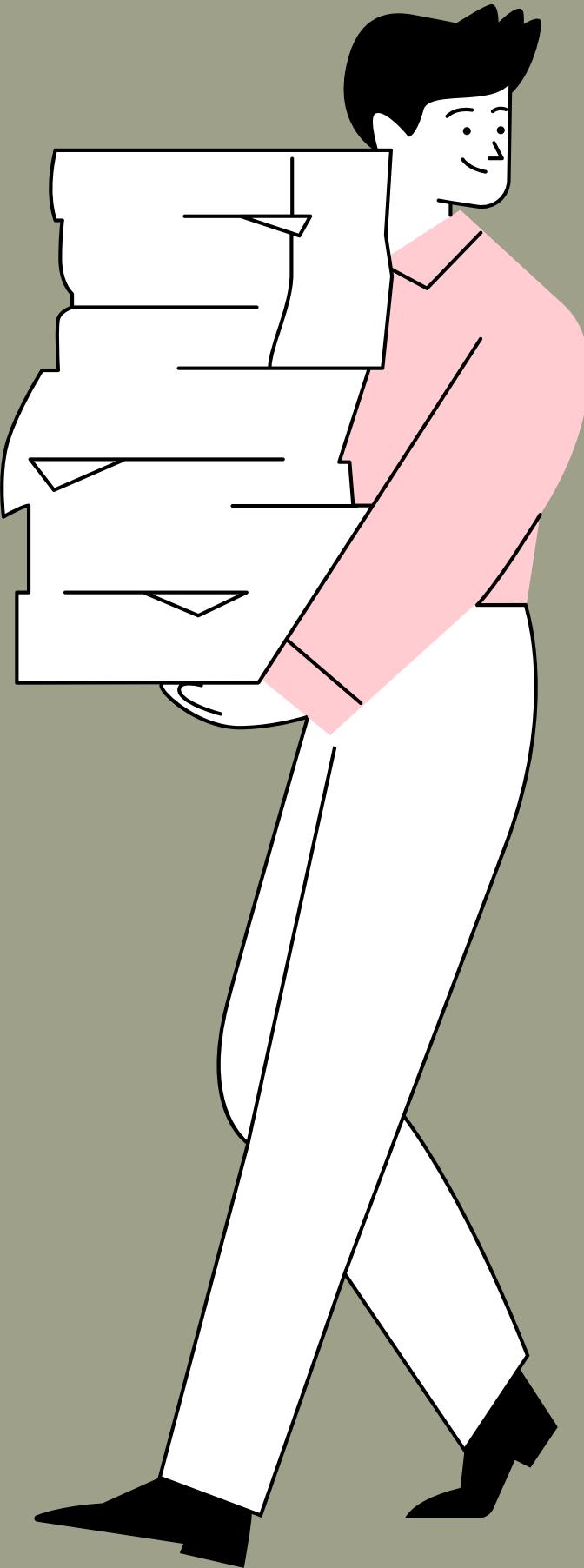
ANJALI PRIYA

Project Overview:

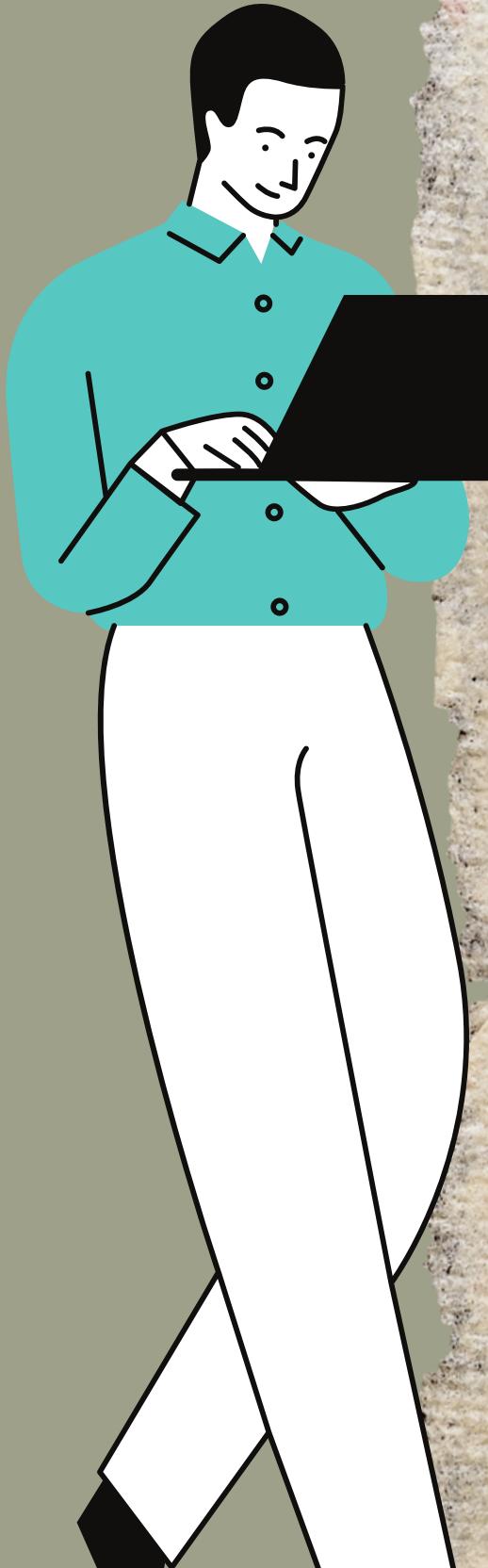
- This project involves analyzing a hotel reservation dataset using SQL to gain insights into guest preferences, booking trends, and other key factors that impact hotel operations.
- The hotel industry relies on data to make informed decisions and enhance the guest experience.
- Analyzing reservation data helps hotels understand guest behavior, optimize pricing strategies, and improve occupancy rates.

Dataset Details:

The Dataset Includes the following columns:

- 
- **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.

SQL QUERIES



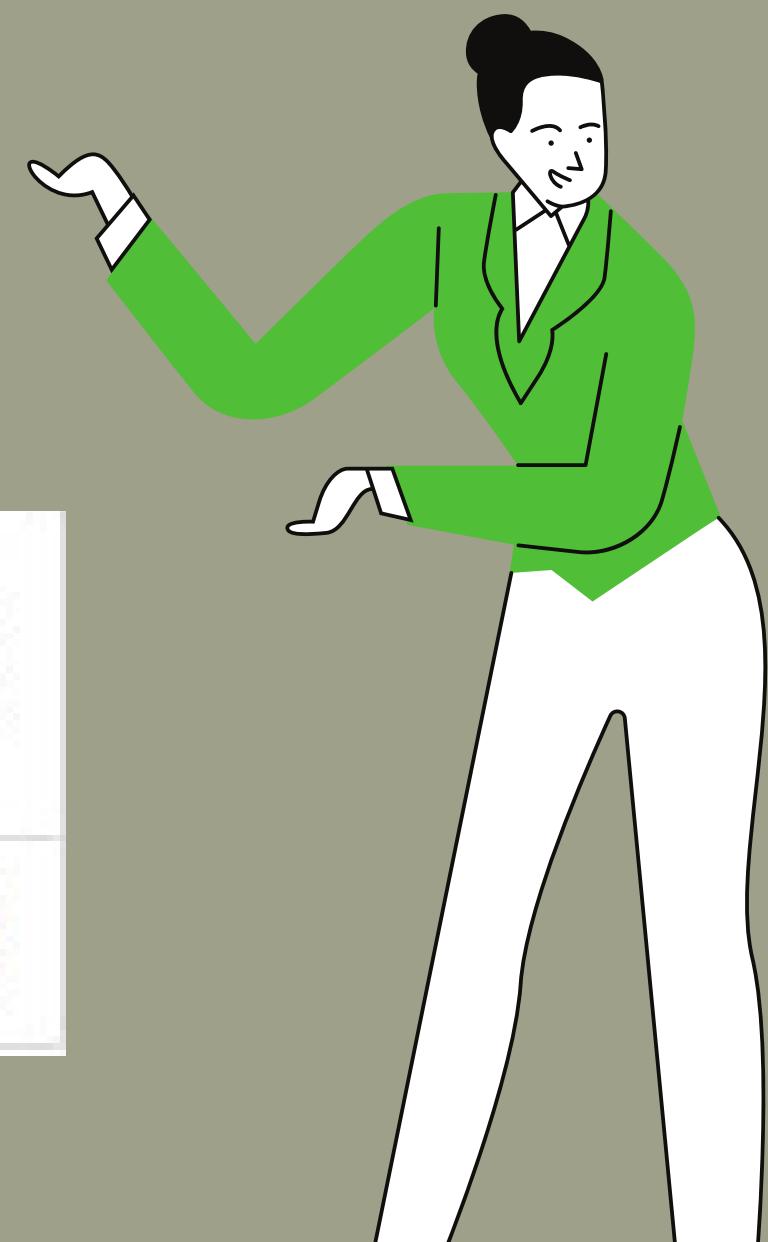
QUERY 1

What is the total number of reservations in the dataset?

```
SELECT COUNT(*) AS total_reservations FROM reservations;
```



	total_reservations	bigint
1		700

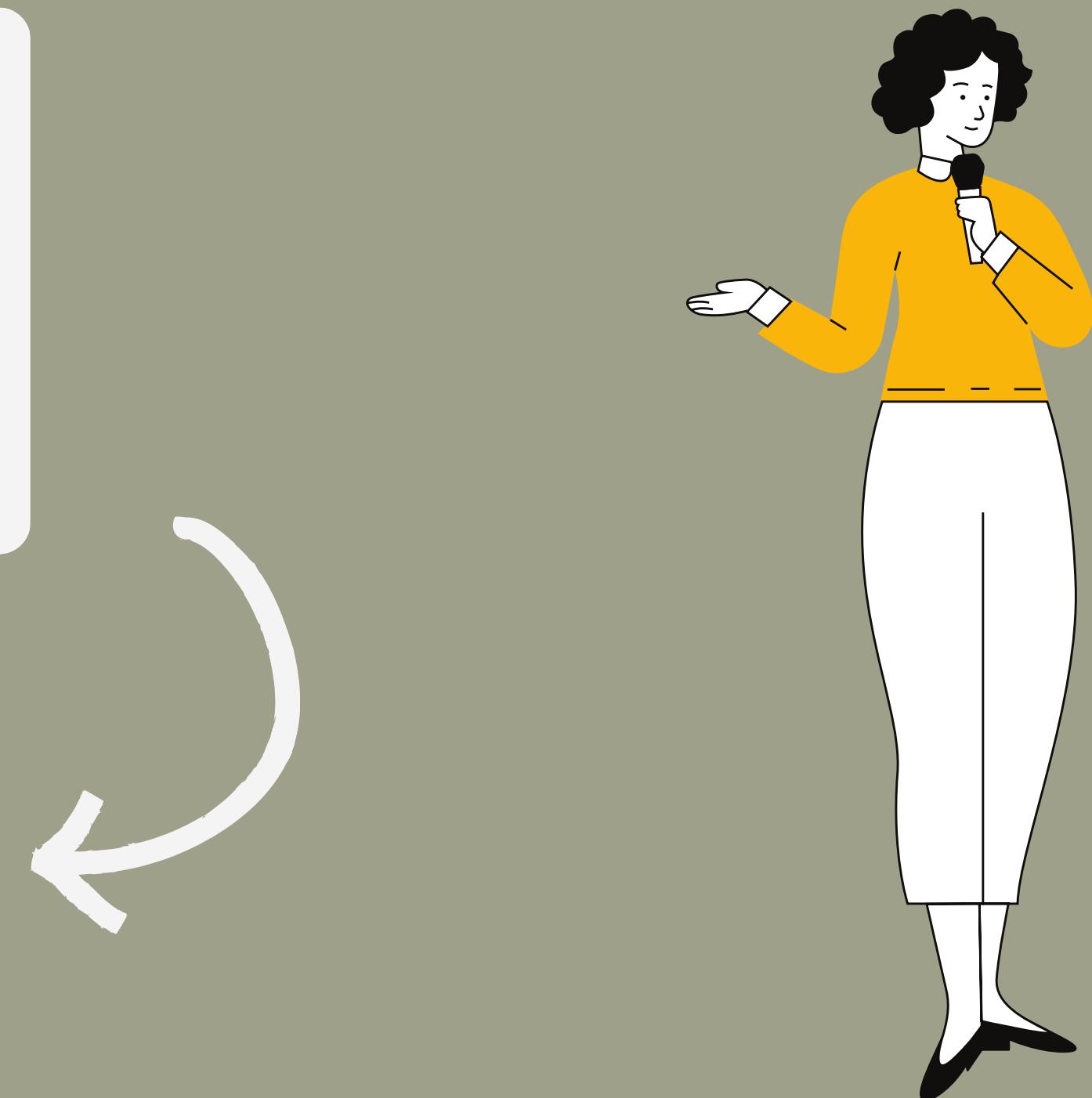


QUERY 2

Which meal plan is the most popular among guests?

```
SELECT type_of_meal_plan, COUNT(*) AS count  
FROM reservations  
GROUP BY type_of_meal_plan  
ORDER BY count DESC LIMIT 1;
```

	type_of_meal_plan	count
1	Meal Plan 1	527



QUERY 3

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

```
SELECT AVG(avg_price_per_room) AS avg_price  
FROM reservations  
WHERE no_of_children > 0;
```



	avg_price	locked
1	144.56833333333333	🔒

QUERY 4

How many reservations were made for the year 2018?



```
SELECT COUNT(*)  
FROM reservations  
WHERE DATE_PART('year', arrival_date) = 2018;
```



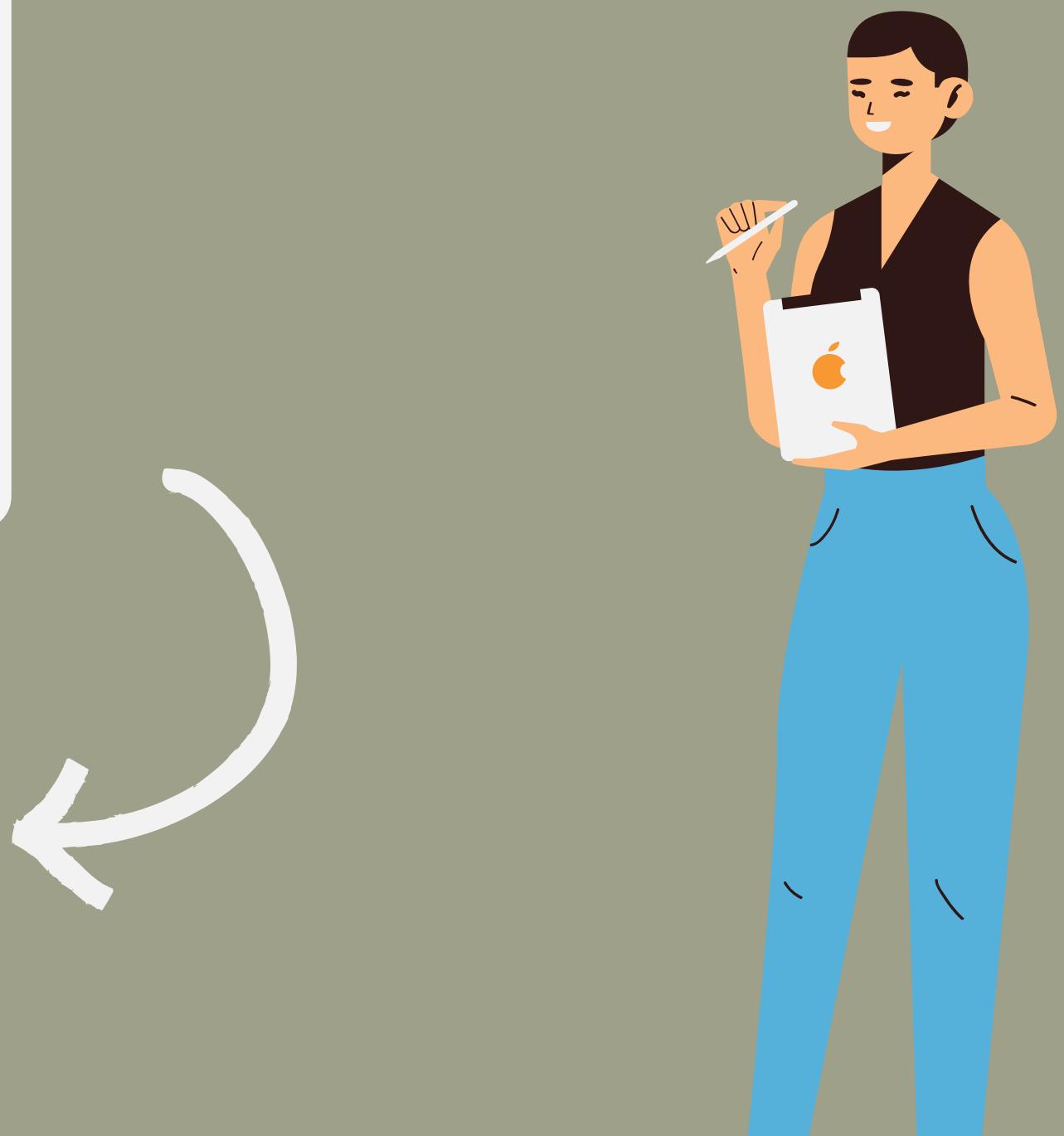
	count bigint	lock
1	577	

QUERY 5

What is the most commonly booked room type?

```
SELECT room_type_reserved, COUNT(*) AS count  
FROM reservations  
GROUP BY room_type_reserved  
ORDER BY count DESC LIMIT 1;
```

	room_type_reserved character varying (255)	count bigint
1	Room_Type 1	534



QUERY 6

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



```
SELECT COUNT(*) AS weekend_reservations  
FROM reservations  
WHERE no_of_weekend_nights > 0;
```

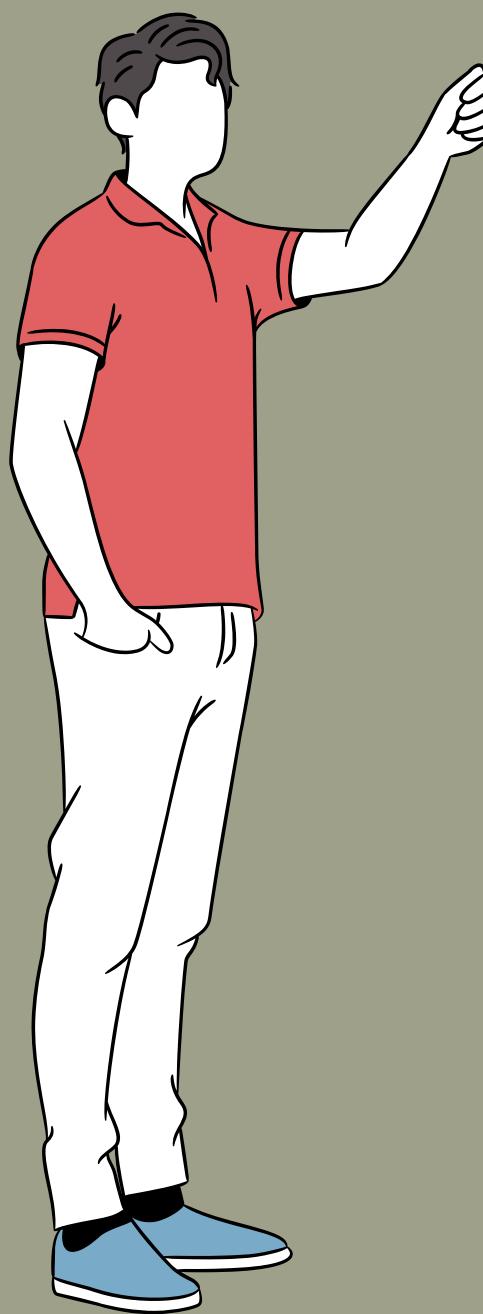
	weekend_reservations	bigint
1		383



QUERY 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 reservations;
```

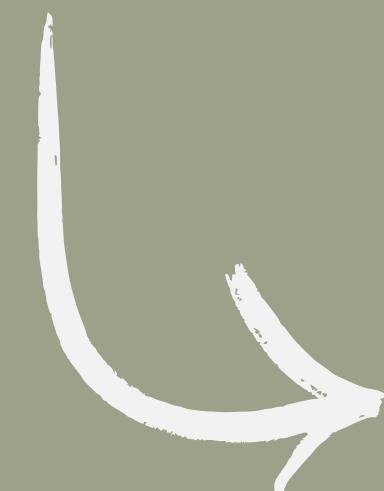
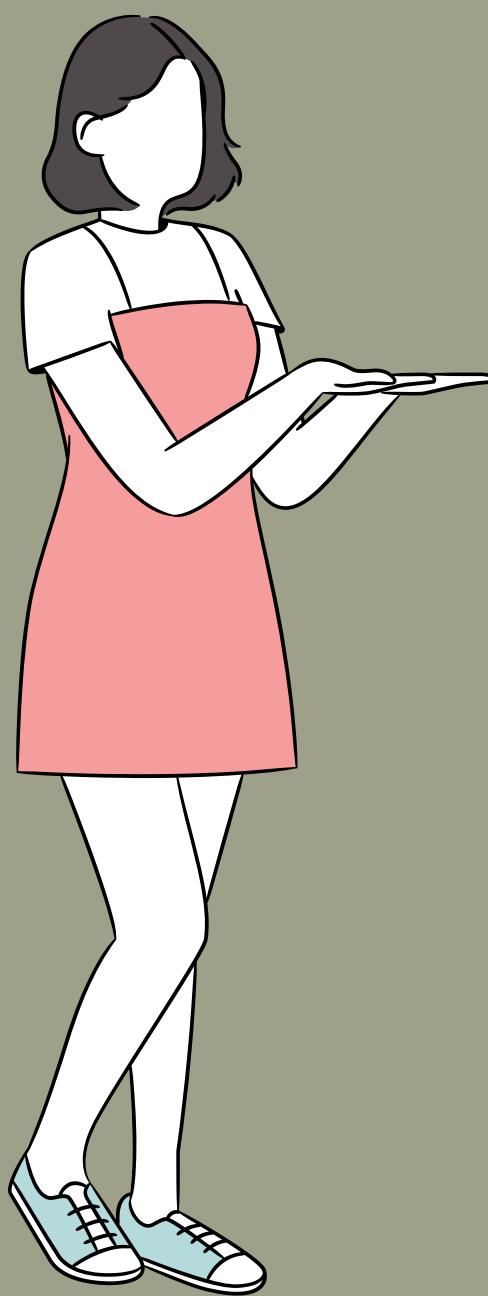


highest_lead_time	integer	lowest_lead_time	integer
1	443	0	0

QUERY 8

What is the most common market segment type for reservations?

```
SELECT market_segment_type, COUNT(*) AS count  
FROM reservations  
GROUP BY market_segment_type  
ORDER BY count DESC LIMIT 1;
```

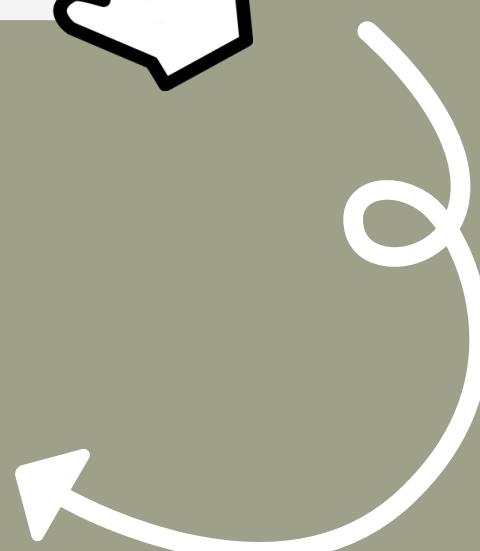


	market_segment_type character varying (255)	count bigint
1	Online	518

QUERY 9

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

```
SELECT COUNT(*) AS confirmed_reservations  
FROM reservations  
WHERE booking_status = 'Confirmed';
```



	confirmed_reservations	bigint
1	0	



QUERY 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 reservations;
```



	total_adults bigint	total_children bigint
1	1316	69



QUERY 11

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

```
SELECT AVG(no_of_weekend_nights) AS avg_weekend_nights  
FROM reservations  
WHERE no_of_children > 0;
```



	avg_weekend_nights	lock
1	1.0000000000000000	locked



QUERY 12

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

```
SELECT
```

```
    EXTRACT(MONTH FROM arrival_date) AS month_number,  
    TO_CHAR(arrival_date, 'Month') AS month_name,  
    COUNT(*) AS reservation_count  
  
FROM reservations  
  
GROUP BY EXTRACT(MONTH FROM arrival_date),  
        TO_CHAR(arrival_date, 'Month')  
  
ORDER BY month_number;
```



	month_number numeric	month_name text	reservation_count bigint
1	1	January	11
2	2	February	28
3	3	March	52
4	4	April	67
5	5	May	55
6	6	June	84
7	7	July	44
8	8	August	70
9	9	September	80
10	10	October	103
11	11	November	54
12	12	December	52

QUERY 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 reservations  
GROUP BY room_type_reserved;
```



	room_type_reserved character varying (255)	avg_nights numeric
1	Room_Type 7	2.6666666666666667
2	Room_Type 1	2.8782771535580524
3	Room_Type 5	2.5000000000000000
4	Room_Type 2	3.0000000000000000
5	Room_Type 6	3.6111111111111111
6	Room_Type 4	3.8000000000000000

QUERY 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, COUNT(*) AS count,  
AVG(avg_price_per_room) AS avg_price  
FROM reservations  
WHERE no_of_children > 0  
GROUP BY room_type_reserved  
ORDER BY count DESC LIMIT 1;
```

	room_type_reserved character varying (255)	count bigint	avg_price numeric
1	Room_Type 1	24	123.1229166666666667



QUERY 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 reservations  
GROUP BY market_segment_type  
ORDER BY avg_price DESC LIMIT 1;
```



	market_segment_type character varying (255)	avg_price numeric
1	Online	112.4552123552123552

Thank You

