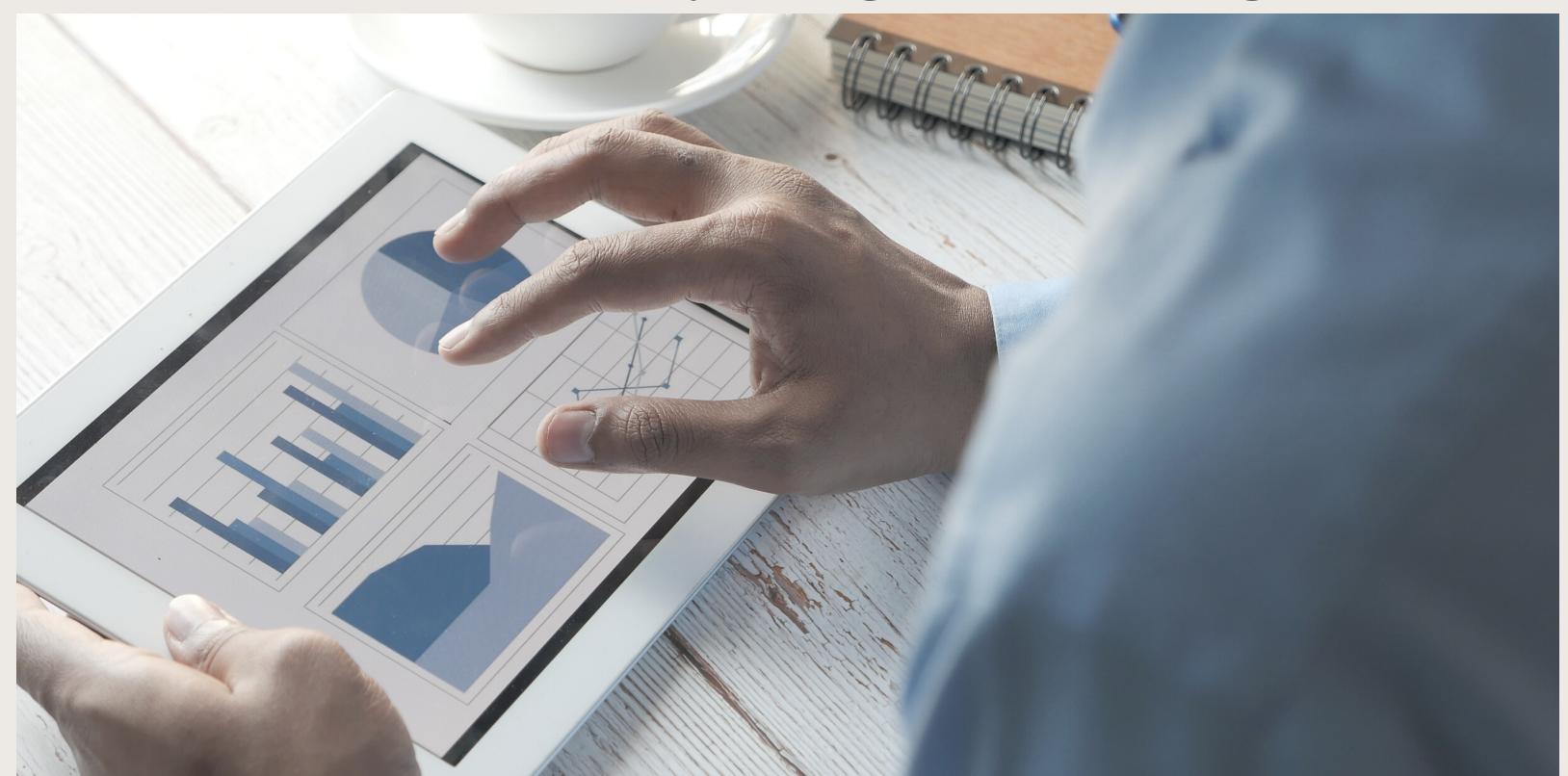# DATA ANALYST INTERNSHIP

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# PROJECT 2: HOTEL RESERVATION ANALYSIS WITH SQL

# 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.

# QUERIES

1. WHAT IS THE TOTAL NUMBER OF RESERVATIONS IN THE DATASET?
 >SELECT COUNT(*) AS TOTAL_RESERVATIONS FROM HOTEL_RESERVATION_DATASET1;

2. WHICH MEAL PLAN IS THE MOST POPULAR AMONG GUESTS?
 MYSQL> SELECT TYPE_OF_MEAL_PLAN,COUNT(*) AS TOTAL_GUESTS
-> FROM HOTEL_RESERVATION_DATASET1
-> GROUP BY TYPE_OF_MEAL_PLAN
-> ORDER BY TOTAL_GUESTS DESC
-> LIMIT 1;

3. WHAT IS THE AVERAGE PRICE PER ROOM FOR RESERVATIONS INVOLVING CHILDREN?
MYSQL> SELECT AVG(AVG_PRICE_PER_ROOM)
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE NO_OF_CHILDREN>0;

# 4. HOW MANY RESERVATIONS WERE MADE FOR THE YEAR 20XX (REPLACE XX WITH THE DESIRED YEAR)?

```
MYSQL> SELECT COUNT(*) AS TOTAL_RESERVAIONS
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE YEAR(ARRIVAL_DATE)=2018;
```

# 5. WHAT IS THE MOST COMMONLY BOOKED ROOM TYPE?

```
MYSQL> SELECT ROOM_TYPE_RESERVED,COUNT(*) AS TOTAL_BOOKINGS
-> FROM HOTEL_RESERVATION_DATASET1
-> GROUP BY ROOM_TYPE_RESERVED
-> ORDER BY TOTAL_BOOKINGS DESC
-> LIMIT 1;
```

# 6. HOW MANY RESERVATIONS FALL ON A WEEKEND (NO_OF_WEEKEND_NIGHTS > 0)?

```
MYSQL> SELECT COUNT(*) AS WEEKEND_RESERVATIONS
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE NO_OF_WEEKEND_NIGHTS>0;
```

7. WHAT IS THE HIGHEST AND LOWEST LEAD TIME FOR RESERVATIONS?

```
MYSQL> SELECT MAX(LEAD_TIME) AS HIGHEST_LEAD_TIME,
-> MIN(LEAD_TIME) AS LOWEST_LEAD_TIME
-> FROM HOTEL_RESERVATION_DATASET1;
```

8. WHAT IS THE MOST COMMON MARKET SEGMENT TYPE FOR RESERVATIONS?

```
MYSQL> SELECT MARKET_SEGMENT_TYPE,COUNT(*) AS TOTAL_RESERVATIONS
-> FROM HOTEL_RESERVATION_DATASET1
-> GROUP BY MARKET_SEGMENT_TYPE
-> ORDER BY TOTAL_RESERVATIONS DESC
-> LIMIT 1;
```

9. HOW MANY RESERVATIONS HAVE A BOOKING STATUS OF "CONFIRMED"?

```
MYSQL> SELECT COUNT(*) AS CONFIRMED_RESERVATIONS
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE BOOKING_STATUS='NOT_CANCELED';
```

10. WHAT IS THE TOTAL NUMBER OF ADULTS AND CHILDREN ACROSS ALL RESERVATIONS?

```
MYSQL> SELECT SUM(NO_OF_ADULTS) AS TOTAL_ADULTS,
-> SUM(NO_OF_CHILDREN) AS TOTAL_CHILDREN
-> FROM HOTEL_RESERVATION_DATASET1;
```

11. WHAT IS THE AVERAGE NUMBER OF WEEKEND NIGHTS FOR RESERVATIONS INVOLVING CHILDREN?

```
MYSQL> SELECT AVG(NO_OF_WEEKEND_NIGHTS) AS AVERAGE_WEEKEND_NIGHTS
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE NO_OF_CHILDREN>0;
```

12. HOW MANY RESERVATIONS WERE MADE IN EACH MONTH OF THE YEAR?

```
MYSQL> SELECT MONTH(ARRIVAL_DATE) AS RESERVATION_MONTH,
-> COUNT(*) AS TOTAL_RESERVATIONS
-> FROM HOTEL_RESERVATION_DATASET1
-> GROUP BY RESERVATION_MONTH;
```

13.WHAT IS THE AVERAGE NUMBER OF NIGHTS (BOTH WEEKEND AND WEEKDAY) SPENT BY GUESTS FOR EACH ROOM TYPE?

```
MYSQL> SELECT ROOM_TYPE_RESERVED,
-> AVG(TOTAL_NIGHTS) AS AVERAGE_NIGHTS
-> FROM (
-> SELECT ROOM_TYPE_RESERVED,
->(NO_OF_WEEKEND_NIGHTS + NO_OF_WEEK_NIGHTS) AS TOTAL_NIGHTS
-> FROM HOTEL_RESERVATION_DATASET1
-> ) AS SUBQUERY
-> GROUP BY ROOM_TYPE_RESERVED;
```

14. FOR RESERVATIONS INVOLVING CHILDREN, WHAT IS THE MOST COMMON ROOM TYPE, AND WHAT IS THE AVERAGE PRICE FOR THAT ROOM TYPE?

```
MYSQL> SELECT ROOM_TYPE_RESERVED, AVG(AVG_PRICE_PER_ROOM) AS AVERAGE_PRICE
-> FROM HOTEL_RESERVATION_DATASET1
-> WHERE NO_OF_CHILDREN > 0
-> GROUP BY ROOM_TYPE_RESERVED
-> ORDER BY COUNT(*) DESC
-> LIMIT 1;
```

## 15. FIND THE MARKET SEGMENT TYPE THAT GENERATES THE HIGHEST AVERAGE PRICE PER ROOM.

```
MYSQL> SELECT MARKET_SEGMENT_TYPE, AVG(AVG_PRICE_PER_ROOM) AS AVERAGE_PRICE
    -> FROM HOTEL_RESERVATION_DATASET1
    -> GROUP BY MARKET_SEGMENT_TYPE
    -> ORDER BY AVERAGE_PRICE DESC
    -> LIMIT 1;
```