HOTEL RESERVATION ANALYSIS

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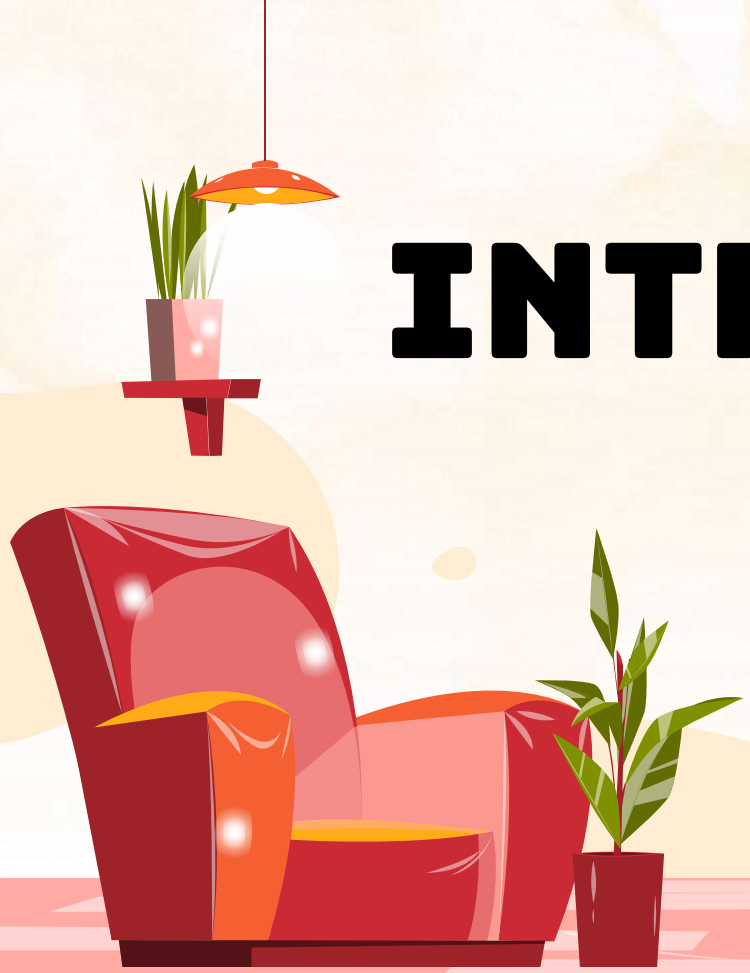
Aspiring Data Analysis



INTRODUCTION

Hotel reservations are the lifeblood of the hospitality industry. Analysing reservation data can provide invaluable insights to optimize occupancy, revenue, and guest satisfaction. This presentation will explore key trends, strategies, and techniques for effective hotel reservations management.


A PICTURE ALWAYS
REINFORCES THE CONCEPT

DATABASE VIEW

CODE : `SELECT * FROM HOTEL_RESERVATION`

OUTPUT:

	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_type	avg_price_per_room	booking_status
1	INN00001	2	0	1	2	Meal Plan 1	Room_Type 1	224	2017-10-02	Offline	65	Not_Canceled
2	INN00002	2	0	2	3	Not Selected	Room_Type 1	5	2018-11-06	Online	106.68	Not_Canceled
3	INN00003	1	0	2	1	Meal Plan 1	Room_Type 1	1	2018-02-28	Online	60	Canceled
4	INN00004	2	0	0	2	Meal Plan 1	Room_Type 1	211	2018-05-20	Online	100	Canceled
5	INN00005	2	0	1	1	Not Selected	Room_Type 1	48	2018-04-11	Online	94.5	Canceled
6	INN00006	2	0	0	2	Meal Plan 2	Room_Type 1	346	2018-09-13	Online	115	Canceled
7	INN00007	2	0	1	3	Meal Plan 1	Room_Type 1	34	2017-10-15	Online	107.55	Not_Canceled
8	INN00008	2	0	1	3	Meal Plan 1	Room_Type 4	83	2018-12-26	Online	105.61	Not_Canceled
9	INN00009	3	0	0	4	Meal Plan 1	Room_Type 1	121	2018-07-06	Offline	96.9	Not_Canceled
10	INN00010	2	0	0	5	Meal Plan 1	Room_Type 4	44	2018-10-18	Online	133.44	Not_Canceled
11	INN00011	1	0	1	0	Not Selected	Room_Type 1	0	2018-09-11	Online	85.03	Not_Canceled
12	INN00012	1	0	2	1	Meal Plan 1	Room_Type 4	35	2018-04-30	Online	140.4	Not_Canceled
13	INN00013	2	0	2	1	Not Selected	Room_Type 1	30	2018-11-26	Online	88	Canceled
14	INN00014	1	0	2	0	Meal Plan 1	Room_Type 1	95	2018-11-20	Online	90	Canceled
15	INN00015	2	0	0	2	Meal Plan 1	Room_Type 1	47	2017-10-20	Online	94.5	Not_Canceled

WHAT IS THE TOTAL NUMBER OF RESERVATIONS IN THE DATASET?

CODE :

```
SELECT COUNT(*) AS
    TOTAL_RESERVATION
    FROM   HOTEL_RESERVATION
```

OUTPUT:

	Total_Reservation
1	700

WHICH MEAL PLAN IS THE MOST POPULAR MEAL AMONG GUESTS?

CODE :

```
SELECT TYPE_OF_MEAL_PLAN  AS 'MOST POPULAR MEAL',
       COUNT(*) AS TOTAL_GUEST
FROM   HOTEL_RESERVATION
GROUP BY              TYPE_OF_MEAL_PLAN
ORDER BY TOTAL_GUEST DESC
```

OUTPUT:

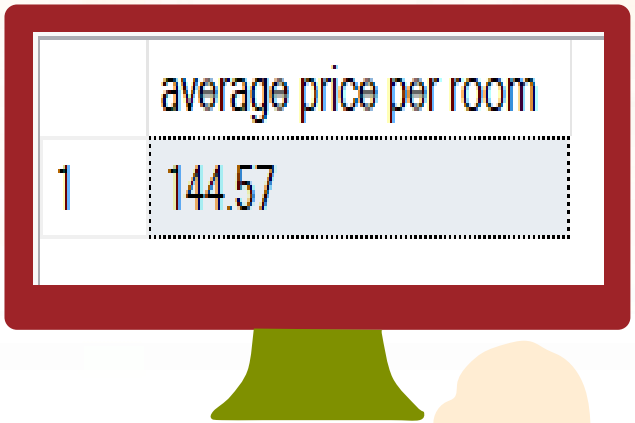
	Most Popular Meal	Total_Guest
1	Meal Plan 1	527
2	Not Selected	109
3	Meal Plan 2	64

WHAT IS THE AVERAGE PRICE PER ROOM FOR RESERVATIONS INVOLVING CHILDREN?

CODE :

```
SELECT ROUND(AVG(AVG_PRICE_PER_ROOM), 2) AS
'AVERAGE PRICE PER ROOM'
FROM  HOTEL_RESERVATION
WHERE (NO_OF_CHILDREN > 0)
```

OUTPUT:



	average price per room
1	144.57

HOW MANY RESERVATIONS WERE MADE FOR THE YEAR 2018?

CODE :

```
SELECT COUNT(*) AS 'NUMBER OF RESERVATION'
FROM   HOTEL_RESERVATION
WHERE  (YEAR(ARRIVAL_DATE) = 2018)
GROUP BY YEAR(ARRIVAL_DATE)
```

OUTPUT:

	Number of Reservation
1	577

WHAT IS THE MOST COMMONLY BOOKED ROOM TYPE?

CODE :

```
SELECT ROOM_TYPE_RESERVED AS
'MOST POPULAR ROOM TYPE',
COUNT(*) AS TOTAL_GUEST
FROM   HOTEL_RESERVATION
GROUP BY ROOM_TYPE_RESERVED
ORDER BY TOTAL_GUEST DESC
```

OUTPUT:

	Most Popular Room Type	Total_Guest
1	Room_Type 1	534
2	Room_Type 4	130
3	Room_Type 6	18
4	Room_Type 2	8
5	Room_Type 7	6
6	Room_Type 5	4

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

CODE :

```
SELECT COUNT(*) AS
    'NUMBER OF WEEKEND RESERVATION'
FROM   HOTEL_RESERVATION
WHERE (NO_OF_WEEKEND_NIGHTS > 0)
```

OUTPUT:

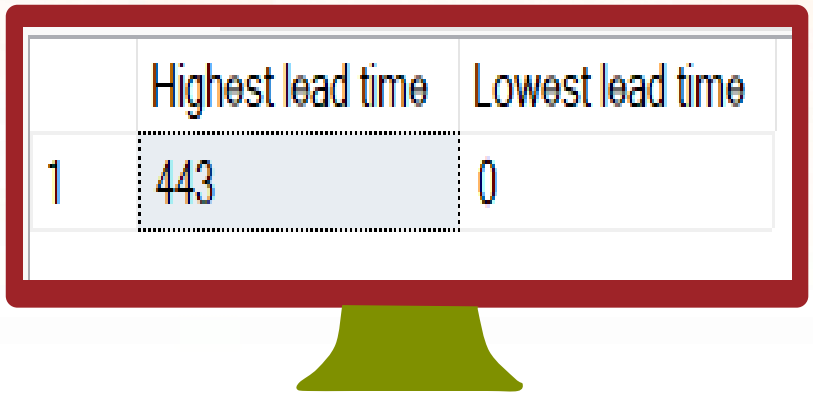
	Number of Weekend Reservation
1	383

WHAT IS THE HIGHEST AND LOWEST LEAD TIME FOR RESERVATIONS?

CODE :

```
SELECT MAX(LEAD_TIME) AS 'HIGHEST LEAD TIME',
       MIN(LEAD_TIME) AS 'LOWEST LEAD TIME'
       FROM   HOTEL_RESERVATION;
```

OUTPUT:



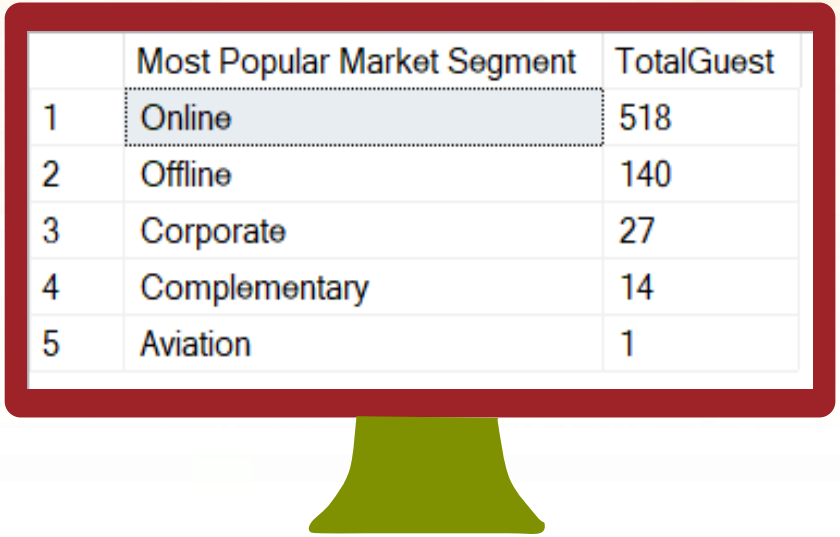
	Highest lead time	Lowest lead time
1	443	0

WHAT IS THE MOST COMMON MARKET SEGMENT TYPE FOR RESERVATIONS?

CODE :

```
SELECT MARKET_SEGMENT_TYPE AS
'MOST POPULAR MARKET SEGMENT',
COUNT(*) AS TOTALGUEST
FROM   HOTEL_RESERVATION
GROUP BY MARKET_SEGMENT_TYPE
ORDER BY TOTALGUEST DESC
```

OUTPUT:



	Most Popular Market Segment	TotalGuest
1	Online	518
2	Offline	140
3	Corporate	27
4	Complementary	14
5	Aviation	1

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

CODE :

```
SELECT COUNT(*) AS 'BOOKING CONFIRMED'
    FROM   HOTEL_RESERVATION
    WHERE (BOOKING_STATUS = 'NOT_CANCELED');
```

OUTPUT:

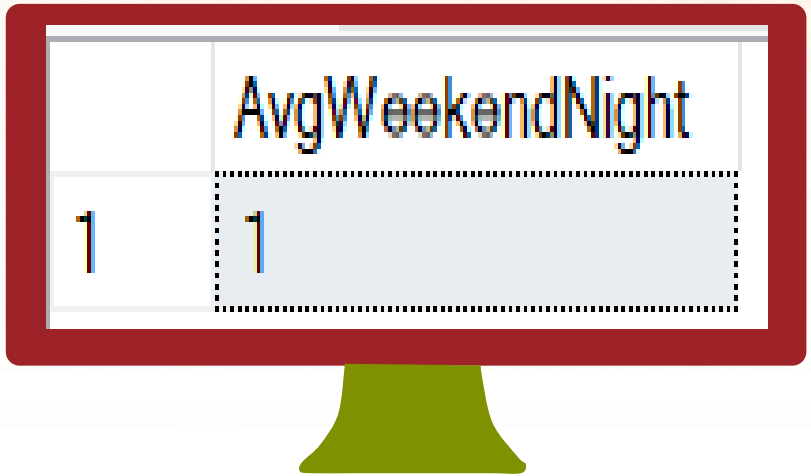
	Booking Confirmed
1	493

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

CODE :

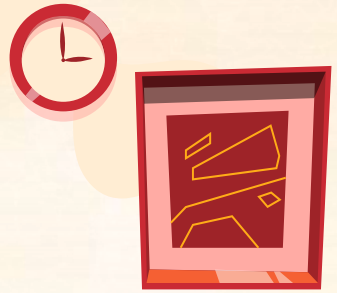
```
SELECT AVG(NO_OF_WEEKEND_NIGHTS) AS
    AVGWEEKENDNIGHT
    FROM   HOTEL_RESERVATION
    WHERE (NO_OF_CHILDREN > 0)
```

OUTPUT:



	AvgWeekendNight
1	1

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



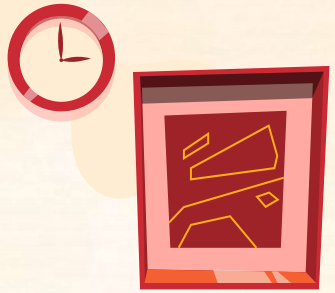
CODE :

```
SELECT SUM(NO_OF_ADULTS) AS TOTALADULTS,
       SUM(NO_OF_CHILDREN) AS TOTALCHILDREN
       FROM   HOTEL_RESERVATION
```

OUTPUT:

	TotalAdults	TotalChildren
1	1316	69

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



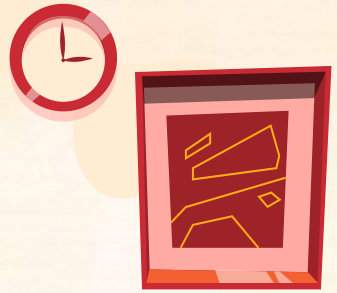
CODE :

```
SELECT MONTH(ARRIVAL_DATE) AS 'MONTH OF YEAR',
       COUNT(*) AS 'NO OF RESERVATION'
       FROM   HOTEL_RESERVATION
       GROUP BY MONTH(ARRIVAL_DATE)
```

OUTPUT:

	Month of Year	NO Of Reservation
1	1	11
2	2	28
3	3	52
4	4	67
5	5	55
6	6	84
7	7	44
8	8	70
9	9	80
10	10	103
11	11	54
12	12	52

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



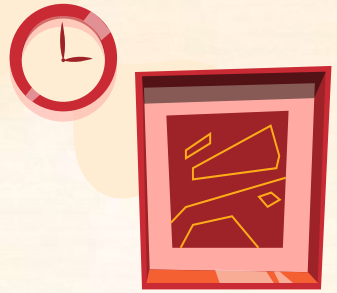
CODE :

```
SELECT AVG(NO_OF_WEEKEND_NIGHTS +
NO_OF_WEEK_NIGHTS)
AS AVGNUMBEROFNIGHT, ROOM_TYPE_RESERVED
FROM   HOTEL_RESERVATION
GROUP BY ROOM_TYPE_RESERVED
```

OUTPUT:

	AvgNumberOfNight	room_type_reserved
1	2	Room_Type 1
2	3	Room_Type 2
3	3	Room_Type 4
4	2	Room_Type 5
5	3	Room_Type 6
6	2	Room_Type 7

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



CODE :

```
SELECT ROOM_TYPE_RESERVED,
       ROUND(AVG(AVG_PRICE_PER_ROOM), 2) AS AVGROOMPRICE,
       COUNT(*) AS TOTALGUEST
FROM   HOTEL_RESERVATION
WHERE  (NO_OF_CHILDREN > 0)
GROUP BY ROOM_TYPE_RESERVED
ORDER BY TOTALGUEST DESC
```

OUTPUT:

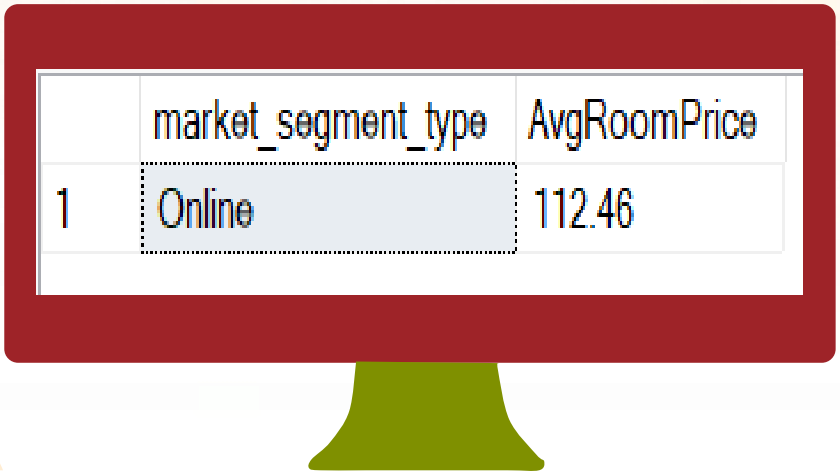
	room_type_reserved	AvgRoomPrice	TotalGuest
1	Room_Type 1	123.12	24
2	Room_Type 6	185.33	17
3	Room_Type 2	112.08	5
4	Room_Type 4	86.32	1
5	Room_Type 7	187.04	1

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

CODE :

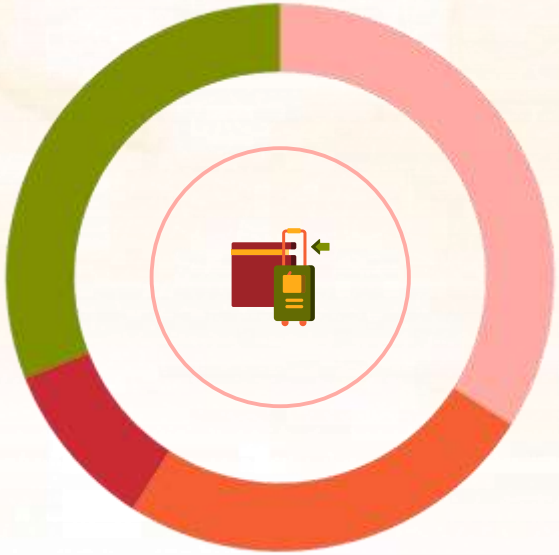
```
SELECT TOP (1) MARKET_SEGMENT_TYPE,
        ROUND(AVG(AVG_PRICE_PER_ROOM), 2) AS AVGROOMPRICE
        FROM   HOTEL_RESERVATION
        GROUP BY MARKET_SEGMENT_TYPE
        ORDER BY AVGROOMPRICE DESC
```

OUTPUT:



	market_segment_type	AvgRoomPrice
1	Online	112.46

MARKET SHARE



ONLINE - 74%

Most Of the Booking are done through Online

OFFLINE - 20%

Some group of peple rely on offline

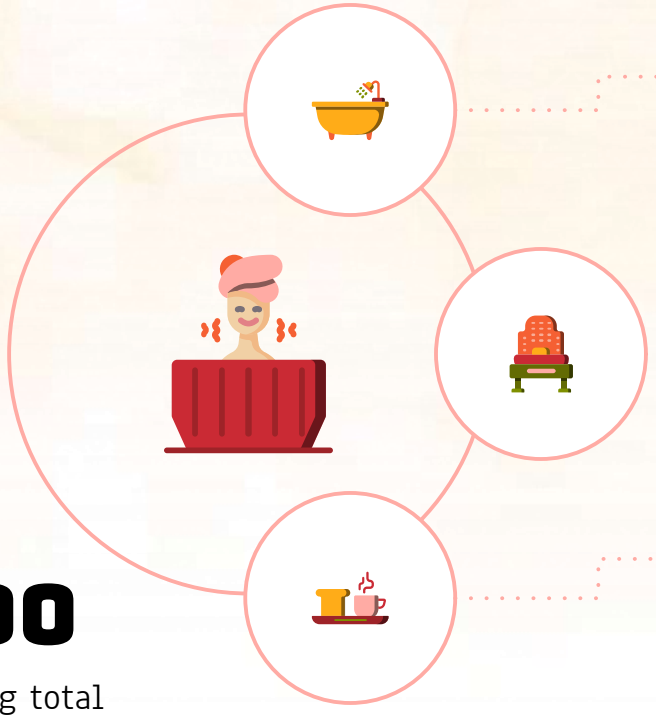
CORPORATE - 03%

Hotels are also get the booking from Corporate

COMPLEMENTARY - 02%

Very Less percentage of booking are came from Complementary

POPULAR MEAL CATEGORY



MEAL PLAN 1

Total 527 choose this meal category

NOT SELECTED

109 choose this meal category

MEAL PLAN 2

Rest 64 choose this meal category

700

Among total reservations

THIS IS A SHORT ANALYSIS

Where I get the total dataset from MENTORNESS, after analysing all the data using MS SQL Server I get above information's

THANKS!

Does anyone have any questions?

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