Hotel Reservation Analysis with MySQL

1. What is the total number of reservations in the dataset?

```sql
SELECT COUNT(Booking_ID) AS total_reservation
FROM hotel_data;
```

total_reservation
700

2. Which meal plan is the most popular among guests?

```sql
SELECT type_of_meal_plan, COUNT(type_of_meal_plan) AS total_count FROM hotel_data
GROUP BY type_of_meal_plan
ORDER BY COUNT(type_of_meal_plan) DESC
LIMIT 1;
```

type_of_meal_plan	total_count
Meal Plan 1	527

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

```sql
SELECT ROUND(AVG(avg_price_per_room),1) AS avg_price_per_room_for_children
FROM hotel_data
WHERE no_of_children >0 ;
```

avg_price_per_room_for_children
144.6

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

```sql
SELECT YEAR(arrival_date) AS year  ,COUNT(*) AS total_reservations FROM hotel_data
GROUP BY YEAR(arrival_date)
ORDER BY YEAR(arrival_date) ASC ;
```

year	total_reservations
2017	123
2018	577

5. What is the most commonly booked room type?

```sql
SELECT room_type_reserved, COUNT(room_type_reserved) AS total_booking FROM hotel_data
GROUP BY room_type_reserved
ORDER BY COUNT(room_type_reserved) DESC
LIMIT 1;
```

room_type_reserved	total_booking
Room_Type 1	534

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

```sql
SELECT COUNT(*) AS total_weekend_reservations
FROM hotel_data
WHERE no_of_weekend_nights > 0 ;
```

total_weekend_reservations
383

```sql
-- weekday reservation
SELECT COUNT(*) AS total_weekday_reservations
FROM hotel_data
WHERE no_of_week_nights > 0 ;
```

total_weekday_reservations
656

7. What is the highest and lowest lead time for reservations?

```sql
SELECT MAX(lead_time) AS highest_lead_time,MIN(lead_time) AS lowest_lead_time
FROM hotel_data;
```

highest_lead_time	lowest_lead_time
443	0

```sql
SELECT AVG(lead_time) AS avg_lead_time
FROM hotel_data;
```

avg_lead_time
83.3000

8. What is the distribution of market segments for guests making same day reservations versus those with long lead times (443 days)?

```sql
-- Query for Same-Day Reservations
SELECT market_segment_type, COUNT(market_segment_type) AS total_market_segment
FROM hotel_data
WHERE lead_time = 0
GROUP BY  market_segment_type;
```

market_segment_type	total_market_segment
Online	16
Corporate	7
Offline	2
Complementary	1

```sql
-- Query for Long Lead Time Reservations
SELECT market_segment_type, COUNT(market_segment_type) AS total_market_segment
FROM hotel_data
WHERE lead_time = 443
GROUP BY  market_segment_type;
```

market_segment_type	total_market_segment
Online	1

9. What is the most common market segment type for reservations"

```sql
SELECT market_segment_type, COUNT(*) AS total_resevations FROM hotel_data
GROUP BY market_segment_type
ORDER BY COUNT(*) DESC
LIMIT 1;
```

market_segment_type	total_resevations
Online	518

10. What is the total number of confirmed reservations, and what percentage of reservations have a "Confirmed" booking status?

```sql
SELECT COUNT(*) AS confirmed_reservations FROM hotel_data
WHERE booking_status = "Not_Canceled";
```

confirmed_reservations
493

```sql
-- successful reservation %
SELECT ROUND((SUM(CASE WHEN booking_status = "Not_Canceled" THEN 1 ELSE 0 END)/COUNT(*))*100,2) AS successful_reservation_percent
FROM hotel_data;
```

successful_reservation_percent
70.43

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

```sql
SELECT SUM(no_of_adults) AS total_adults,SUM(no_of_children) AS total_children
FROM hotel_data;
```

total_adults	total_children
1316	69

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

```
SELECT ROUND(AVG(no_of_weekend_nights),2) AS avg_weekend_nights_for_children
FROM hotel_data
WHERE no_of_children > 0;
```

avg_weekend_nights_for_children
1.00

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

```
SELECT MONTH(arrival_date) AS month, MONTHNAME(arrival_date) AS month_name,COUNT(*) AS total_reservations
FROM hotel_data
GROUP BY MONTH(arrival_date) ,MONTHNAME(arrival_date)
ORDER BY COUNT(*)  DESC ;
```

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

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

```
SELECT room_type_reserved, ROUND(AVG(no_of_weekend_nights + no_of_week_nights),2) AS avg_total_nights FROM hotel_data
GROUP BY room_type_reserved
ORDER BY AVG(no_of_weekend_nights + no_of_week_nights) DESC ;
```

room_type_reserved	avg_total_nights
Room_Type 4	3.80
Room_Type 6	3.61
Room_Type 2	3.00
Room_Type 1	2.88
Room_Type 7	2.67
Room_Type 5	2.50

15. For reservations involving children, what is the most common room type, and what is the average price for that room type?

```sql
SELECT room_type_reserved, COUNT(*) AS total_reservations , ROUND(AVG(avg_price_per_room),2) AS avg_price_per_room
FROM hotel_data
WHERE no_of_children > 0
GROUP BY room_type_reserved
ORDER BY COUNT(*) DESC
LIMIT 1 ;
```

room_type_reserved	total_reservations	avg_price_per_room
Room_Type 1	24	123.12

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

```sql
SELECT market_segment_type , ROUND(AVG(avg_price_per_room),2) AS highest_avg_price_per_room
FROM hotel_data
GROUP BY market_segment_type
ORDER BY highest_avg_price_per_room DESC
LIMIT 1;
```

market_segment_type	highest_avg_price_per_room
Online	112.46

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