Hotel Reservation Analysis with SQL

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

```sql
SELECT COUNT(Booking_ID) as totalnumberofreservation from hotel_reservation_dataset;
```

totalnumberofreservation
700

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

```sql
1  SELECT type_of_meal_plan as popular_plan,COUNT(Booking_ID) as no_of_bookings  from hotel_reservation_dataset
2  GROUP by popular_plan
3  ORDER by no_of_bookings DESC
4  limit 1;
```

popular_plan	no_of_bookings
Meal Plan 1	527

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

```sql
1  SELECT AVG(avg_price_per_room) as avgpriceperroom from hotel_reservation_dataset
2  where no_of_children >0 ;
3
4  SELECT no_of_children , avg(avg_price_per_room) from hotel_reservation_dataset
5  GROUP by no_of_children
6  HAVING no_of_children > 0;
```

avgpriceperroom
144.568333

For the further data I have execute second code

no_of_children	avg(avg_price_per_room)
1	127.057407
2	167.082381

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

```sql
1 SELECT COUNT(Booking_ID) AS reservation_in_2018 from hotel_reservation_dataset
2 where arrival_date LIKE "%2018%";
```

reservation_in_2018
577

5. What is the most commonly booked room type?

```sql
1 SELECT room_type_reserved as common_room_type,COUNT(Booking_ID) AS no_of_bookings FROM hotel_reservation_dataset
2 GROUP by common_room_type
3 ORDER by no_of_bookings DESC
4 limit 1;
```

common_room_type	no_of_bookings
Room_Type 1	534

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

```sql
1 select COUNT(Booking_ID) from hotel_reservation_dataset
2 where no_of_weekend_nights > 0 ;
3
4 SELECT no_of_weekend_nights, COUNT(Booking_ID) from hotel_reservation_dataset
5 GROUP BY no_of_weekend_nights
6 HAVING no_of_weekend_nights >0; |
```

COUNT(Booking_ID)
383

For further data we are executing second code

no_of_weekend_nights	COUNT(Booking_ID)
1	183
2	193
3	3
4	3
6	1

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

```sql
1  select MAX(lead_time) as highest_lead_time, MIN(lead_time) as lowest_lead_time from
   hotel_reservation_dataset;
```

highest_lead_time	lowest_lead_time
443	0

8. What is the most common market segment type for reservations?

```sql
1  SELECT market_segment_type as common_market_segment ,count(Booking_ID) as no_of_reservation from
   hotel_reservation_dataset
2  GROUP by common_market_segment
3  order by no_of_reservation DESC
4  limit 1;
```

common_market_segment	no_of_reservation
Online	518

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

booking_status	COUNT(Booking_ID)
Canceled	207
Not_Canceled	493

We are updating data.

```sql
1  UPDATE hotel_reservation_dataset
2  set booking_status="Confirmed"
3  where booking_status = "Not_Canceled";
4
5  SELECT COUNT(Booking_ID) as confirmed_bookings from hotel_reservation_dataset
6  where booking_status = "Confirmed";
```

confirmed_bookings
493

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

```
1 SELECT sum(no_of_adults) as total_adults,SUM(no_of_children) as total_children from
  hotel_reservation_dataset;
```

total_adults	total_children
1316	69

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

```
1 select avg(no_of_weekend_nights) as avgweekendnights from hotel_reservation_dataset
2 WHERE no_of_children>0;
```

avgweekendnights
1.0000

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

```
1 SELECT substring_index(substring_index(arrival_date,"-",2),"-",-1) as month,COUNT(Booking_ID) AS
  per_month_booking from hotel_reservation_dataset
2 GROUP by substring_index(substring_index(arrival_date,"-",2),"-",-1) ;
```

month	per_month_booking
01	11
02	28
03	52
04	67
05	55
06	84
07	44
08	70
09	80
10	103
11	54
12	52

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

```sql
1 SELECT  room_type_reserved as room_type ,avg(no_of_weekend_nights) as avgweekendnights ,avg(no_of_week_nights) as avgweeknights
2 from hotel_reservation_dataset
3 GROUP BY room_type;
```

room_type	avgweekendnights	avgweeknights
Room_Type 1	0.7884	2.0899
Room_Type 2	1.0000	2.0000
Room_Type 4	1.0923	2.7077
Room_Type 5	0.0000	2.5000
Room_Type 6	1.0556	2.5556
Room_Type 7	1.0000	1.6667

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

```sql
1 select room_type_reserved as common_room_type ,COUNT(Booking_ID) as booking,avg(avg_price_per_room) as price
2 from hotel_reservation_dataset
3 where no_of_children >0
4 GROUP by common_room_type
5 ORDER BY booking DESC
6 limit 1 ;
```

common_room_type	booking	price
Room_Type 1	24	123.122917

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

```sql
1 select market_segment_type as market_segment,AVG(avg_price_per_room) as highest_price_per_room
2 from hotel_reservation_dataset
3 GROUP by market_segment_type
4 order by highest_price_per_room DESC
5 limit 1;
```

market_segment	highest_price_per_room
Online	112.455212