



Project Name:

HOTEL BOOKINGS DEMAND



Tables in the Dataset

```
1 • ⊖ CREATE TABLE hotels (
2     booking_id INT PRIMARY KEY,
3     hotel VARCHAR(50)
4 );
5 ⊖ CREATE TABLE guests (
6     guest_id INT PRIMARY KEY,
7     country VARCHAR(50),
8     market_segment VARCHAR(50),
9     customer_type VARCHAR(50),
10    is_repeated_guest BOOLEAN
11 );
12 ⊖ CREATE TABLE bookings (
13     booking_id INT PRIMARY KEY,
14     guest_id INT,
15     is_canceled BOOLEAN,
16     lead_time INT,
17     arrival_date_year INT,
18     arrival_date_month VARCHAR(15)
19 );
20 ⊖ CREATE TABLE payments (
21     booking_id INT PRIMARY KEY,
22     adr FLOAT,
23     deposit_type VARCHAR(50),
24     total_of_special_requests INT
25 );
26 ⊖ CREATE TABLE stays (
27     booking_id INT PRIMARY KEY,
28     stays_in_weekend_nights INT,
29     stays_in_week_nights INT,
30     adults INT,
31     children FLOAT,
32     babies INT
33 );
```





QUES 1: Total number of bookings Done?

```
SELECT  
    COUNT(booking_id) AS total_bookings  
FROM  
    bookings;
```

Answer:

```
Total_bookings ▾  
119390
```

QUES 2: What are the different hotel types?

```
8 •   SELECT DISTINCT  
9       hotel AS Hotels  
10      FROM  
11       hotels;
```

Answer:

```
Hotels  
Resort Hotel  
City Hotel
```





QUES 3: List the top 5 countries by number of guests.

```
14 •   SELECT
15       country, COUNT(guest_id) AS No_of_guests
16   FROM
17     guests
18 GROUP BY country
19 ORDER BY no_of_guests DESC
20 LIMIT 5;
```

Answer:

country	No_of_guests
PRT	48590
GBR	12129
FRA	10415
ESP	8568
DEU	7287





QUES 4: Total number of bookings that were canceled?

```
2 • SELECT  
3     COUNT(booking_id) AS Canceled_bookings  
4 FROM  
5   bookings  
6 WHERE  
7   is_canceled = 1;
```

Answer:

Canceled_bookings
44224





QUES 5: What are the different deposit types used?

```
10 • SELECT DISTINCT  
11     deposit_type  
12 FROM  
13   payments
```

Answer:

deposit_type
Refundable
Non Refund
No Deposit

QUES 6: How many bookings included children or babies?

```
11 • SELECT COUNT(*) AS Bookings  
12   FROM stays  
13 WHERE children > 0 OR babies > 0;
```

Answer:

Bookings
9332





QUES 7: Find the average lead time of each hotel type.

```
SELECT  
    h.hotel, ROUND(AVG(b.lead_time),2) AS Average_lead_time  
FROM  
    bookings b  
        JOIN  
    hotels h ON h.booking_id = b.booking_id  
group by h.hotel;
```

Answer:

hotel	Average_lead_ti...
Resort Hotel	92.68
City Hotel	109.74





QUES 8: Calculate the cancellation rate by market segment?

```
SELECT  
    g.market_segment,  
    AVG(b.is_canceled) * 100 AS cancellation_rate  
FROM  
    guests AS g  
    JOIN  
    bookings b ON b.guest_id = g.guest_id  
GROUP BY g.market_segment;
```

Answer:

market_segment	cancellation_rate
Direct	15.3419
Corporate	18.7347
Online TA	36.7211
Offline TA/TO	34.3160
Complementary	13.0552
Groups	61.0620
Undefined	100.0000
Aviation	21.9409





#QUES 9: What is the total number of special requests for each customer type?

```
2 •   SELECT
3     g.customer_type,
4       SUM(p.total_of_special_requests) AS Special_requests
5   FROM
6     payments p
7     JOIN
8       bookings b ON b.booking_id = p.booking_id
9     JOIN
10      guests g ON g.guest_id = b.guest_id
11 GROUP BY g.customer_type;
```

customer_type	Special_reques...
Transient	56598
Contract	2971
Transient-Party	8274
Group	372

QUES 10: Which countries had more than 50% of their bookings canceled?

```
SELECT g.country,
       COUNT(*) AS total, SUM(b.is_canceled) AS canceled,
       ROUND(SUM(CASE WHEN b.is_canceled = 1 THEN 1 END) * 100
             / COUNT(b.booking_id), 2) AS canceled_bookings
  FROM bookings b
 JOIN guests g
    ON g.guest_id = b.guest_id
 GROUP BY country
 HAVING canceled_bookings > 50;
```

country	total	canceled	canceled_bookings
PRT	48590	27519	56.64
AGO	362	205	56.63
ARE	51	43	84.31
HKG	29	26	89.66
GEO	22	15	68.18
AND	7	5	71.43
GIB	18	11	61.11
JEY	8	8	100.00
GGY	3	3	100.00
NGA	34	21	61.76
MDV	12	9	75.00



QUES 11: Find the top 3 month-year combinations with the highest total revenue.

```
SELECT CONCAT(b.arrival_date_month, " ", b.arrival_date_year) AS Month_Year,  
ROUND(SUM(p.adr*(s.stays_in_weekend_nights + s.stays_in_week_nights)),2)  
AS total_revenue FROM bookings b  
JOIN payments p ON b.booking_id = p.booking_id  
JOIN stays s ON b.booking_id = s.booking_id  
WHERE b.is_canceled = 0  
GROUP BY Month_Year  
ORDER BY total_revenue DESC  
LIMIT 3;
```

Month_Year	total_revenue
August 2017	1970181.6
July 2017	1817038.23
August 2016	1809324.75



QUES 12: Determine the average revenue lost due to cancellations for each hotel type.

```
SELECT h.hotel,  
ROUND(AVG(CASE WHEN b.is_canceled = 1  
THEN p.adr*(s.stays_in_weekend_nights+s.stays_in_week_nights)  
ELSE 0 END),2) AS avg_revenue_lost  
FROM bookings b  
JOIN hotels h  
ON b.booking_id = h.booking_id  
JOIN payments p  
ON b.booking_id = p.booking_id  
JOIN stays s  
ON b.booking_id = s.booking_id  
GROUP BY h.hotel;
```

hotel	avg_revenue_lo...
Resort Hotel	145.84
City Hotel	137.21



QUES 13: Find Top 1 Booking Per Country by Revenue

```
- WITH cte as (
  SELECT g.country, b.booking_id,
  ROUND((p.adr*(s.stays_in_weekend_nights+s.stays_in_week_nights)),2)
  AS total_revenue FROM guests g
  JOIN bookings b ON g.guest_id = b.guest_id
  JOIN stays s ON b.booking_id = s.booking_id
  JOIN payments p ON b.booking_id = p.booking_id
  WHERE b.is_canceled = 0
),
cte2 as (
  SELECT *,
  ROW_NUMBER() OVER (PARTITION BY g.country ORDER BY (total_revenue) DESC) AS rnk
  FROM cte)
SELECT country, booking_id, total_revenue from cte2
WHERE rnk = 1
ORDER BY total_revenue DESC;
```

country	booking_id	total_revenue
PRT	27243	4452
JPN	101346	3910
AGO	105526	3791
FRA	38914	3616.06
BEL	15981	3528
IRL	26036	3477.6
NOR	27596	3252.64
MAR	39119	3179.04



QUES 14: What is the Total and Average Stay Duration per Customer Type?

```
WITH stay_duration AS (
  SELECT b.booking_id, g.customer_type,
  (s.stays_in_weekend_nights + s.stays_in_week_nights)
  AS total_nights FROM bookings b
  JOIN stays s ON b.booking_id = s.booking_id
  JOIN guests g ON b.guest_id = g.guest_id
  WHERE b.is_canceled = 0
)
SELECT
  customer_type,
  COUNT(*) AS total_bookings,
  SUM(total_nights) AS total_nights_stayed,
  ROUND(AVG(total_nights), 2) AS avg_stay_duration
FROM stay_duration
GROUP BY customer_type
ORDER BY total_nights_stayed DESC;
```

customer_type	total_bookings	total_nights_stayed	avg_stay_duration
Transient	53099	178610	3.36
Transient-Party	18735	57588	3.07
Contract	2814	17397	6.18
Group	518	1445	2.79



THANKYOU

Bathula Sushma

8498865733

bathulasushma1802@gmail.com

<https://www.linkedin.com/in/sushma-bathula>