

SQL Case Study

Major Travel Company



Problem Statements:

1. Write an SQL query that gives below output.(Summary at segment level)

Segment	No_of_users	User_who_booked_in_Apr2022
S1	3	2
S2	2	2
S3	5	1

2. Write a query to identify users whose first booking was a hotel booking.

3. Write a query to calculate the days between first and last booking of each user.

4. Write a query to count the number of flights and hotel bookings in each of the users by the year 2022.

Data Dictionary:

Table Name: User_details

Column	Data type	Description
User_id	VARCHAR	User ID
Segment	VARCHAR	User Segment

Table Name: Booking_Detils

Column	Data type	Description
Booking_id	VARCHAR	Booking ID
Booking_date	DATE	Date of the booking
User_id	VARCHAR	User ID
Line_of_Business	VARCHAR	Line of business(Flight & Hotel)

Solution:

1. Write an SQL query that gives below output.(Summary at segment level)

Segment	No_of_users	User_who_booked_in_Apr2022
S1	3	2
S2	2	2
S3	5	1

```
SELECT
u.Segment,
COUNT(DISTINCT u.User_id) AS Total_user_count,
COUNT(DISTINCT CASE WHEN b.Line_of_business = 'Flight'
AND b.Booking_Date BETWEEN '2022-04-01' AND '2022-04-30'
THEN b.User_id ELSE NULL END) AS
User_who_booked_flight_in_Apr2022
FROM user_details AS u
LEFT JOIN booking_details AS b
      ON u.User_id = b.User_id
GROUP BY
u.Segment;
```

	Segment	Total_user_count	User_who_booked_flight_in_Apr2022
1	s1	3	2
2	s2	2	2
3	s3	5	1

Solution:

2. Write a query to identify users whose first booking was a hotel booking.

-- USING RANK() FUNCTION--

```
WITH First_Booking AS
(SELECT *,
RANK() OVER (PARTITION BY User_id ORDER BY Booking_Date ASC) AS rn
FROM booking_details)
SELECT User_id FROM First_Booking
WHERE rn = 1 AND Line_of_business = 'Hotel';
```

-- USING FIRST_VALUE() FUNCTION--

```
WITH CTE1 AS(
SELECT *,
FIRST_VALUE(Line_of_business) OVER (PARTITION BY User_id ORDER BY Booking_Date ASC) AS
Fisrt_Booking
FROM booking_details)
SELECT DISTINCT(User_id) FROM CTE1 WHERE Fisrt_Booking = 'Hotel';
```

-- USING ROW_NUMBER() FUNCTION--

```
WITH CTE2 AS(
SELECT *,
ROW_NUMBER() OVER (PARTITION BY User_id ORDER BY Booking_Date ASC) AS rn
FROM booking_details)
SELECT User_id FROM CTE2 WHERE rn = 1 AND Line_of_business = 'Hotel'
```

	User_id
1	u6

Solution:

3. Write a query to calculate the days between first and last booking of each user.

```
WITH CTE1 AS(  
SELECT *,  
FIRST_VALUE(Booking_Date) OVER (PARTITION BY User_id ORDER BY Booking_Date ASC) AS  
First_Booking_Date,  
LAST_VALUE(Booking_Date) OVER (PARTITION BY User_id ORDER BY Booking_Date DESC) AS  
Last_Booking_Date  
FROM booking_details)  
SELECT DISTINCT(User_id) ,  
DATEDIFF(DAY,First_Booking_Date,Last_Booking_Date) AS No_of_days_between_first_and_last_booking  
FROM CTE1;
```

	User_id	No_of_days_between_first_and_last_booking
1	u1	44
2	u2	32
3	u4	34
4	u5	14
5	u6	16

Solution:

4. Write a query to count the number of flights and hotel bookings in each of the users by the year 2022.

```
SELECT
u.Segment AS Segment,
COUNT(CASE WHEN b.Line_of_business = 'Flight' THEN b.Booking_id ELSE NULL END) AS No_of_flight_booking,
COUNT(CASE WHEN b.Line_of_business = 'Hotel' THEN b.Booking_id ELSE NULL END) AS No_of_hotel_booking
FROM user_details AS u
LEFT JOIN booking_details AS b
      ON b.User_id = u.User_id
WHERE YEAR(Booking_Date) = '2022'
GROUP BY
      Segment;
```

	Segment	No_of_flight_booking	No_of_hotel_booking
1	s1	8	4
2	s2	3	3
3	s3	1	1

Thank You

