Capstone-Project

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1. **Represent the "book_date" column in "yyyy-mmm-dd" format using Bookings table**

Expected output: book_ref, book_date (in "yyyy-mmm-dd" format) , total amount

Answer: **select book_ref,to_char(book_date,'yyyy-mon-dd'),total_amount from bookings**

2. **Get the following columns in the exact same sequence.**

Expected columns in the output: ticket_no, boarding_no, seat_number, passenger_id, passenger_name.

Answer: **select t.ticket_no, b.boarding_no, b.seat_no, tp.passenger_id, tp.passenger_name from tickets tp join ticket_flights t on tp.ticket_no=t.ticket_no join boarding_passes b on b.ticket_no=t.ticket_no**

3. **Write a query to find the seat number which is least allocated among all the seats?**

Answer: **select seat_no,count(*) from boarding_passes group by seat_no order by 2 asc limit 1**

4. **In the database, identify the month wise highest paying passenger name and passenger id.**

Expected output: Month_name("mmm-yy" format), passenger_id, passenger_name and total amount

Answer: **with cte as(select to_char(b.book_date,'mon-yy') as book_d,t.passenger_id,t.passenger_name,sum(b.total_amount) as total_amount**

from bookings b join tickets t on t.book_ref=b.book_ref group by 1,2,3),

cte1 as(select book_d,passenger_id,passenger_name,total_amount,rank() over(partition by book_d order by total_amount desc) from cte),

cte2 as(select book_d,passenger_id,passenger_name,total_amount from cte1 where rank=1 order by 1)

select * from cte2

5. **In the database, identify the month wise least paying passenger name and passenger id?**

Expected output: Month_name("mmm-yy" format), passenger_id, passenger_name and total amount

Answer: **with cte as(select to_char(b.book_date,'mon-yy') as book_d,t.passenger_id,t.passenger_name,sum(b.total_amount) as total_amount**

from bookings b join tickets t on t.book_ref=b.book_ref group by 1,2,3),

cte1 as(select book_d,passenger_id,passenger_name,total_amount,rank() over(partition by book_d order by total_amount asc) from cte),

cte2 as(select book_d as month_name , passenger_id, passenger_name, total_amount from cte1 where rank=1 order by 1)

select * from cte2

6. **Identify the travel details of the flights having return journey (more than 1 flight).**

Expected Output: Passenger_id, passenger_name, ticket_ number and flight count.

Answer: **select t.passenger_id,t.passenger_name,b.ticket_no,count(b.*) as flight_count from boarding_passes b join tickets t on b.ticket_no=t.ticket_no group by 1,2,3 having count(b.*)>1**

7. **How many tickets are there without boarding passes?**

Expected Output: just one number is required.

Answer: **select count(*) from (select t.ticket_no,b.ticket_no from tickets t left join boarding_passes b on t.ticket_no=b.ticket_no where b.ticket_no is null)as foo**

8. **Identify details of the longest flight (using flights table)?**

Expected Output: Flight number, departure airport, arrival airport, aircraft code and durations.

Answer: **select flight_no, departure_airport, arrival_airport, aircraft_code, (actual_arrival-actual_departure) as duration from flights where actual_arrival is not null order by 5 desc limit 1**

9. **Identify details of all the morning flights (morning means between 6AM to 11 AM, using flights table)?**

Expected output: flight_id, flight_number, scheduled_departure, scheduled_arrival and timings.

Answer: **select flight_id, flight_no, scheduled_departure, scheduled_arrival, cast(scheduled_departure as time) timings from flights where cast(scheduled_departure as time) between '6:00' and '11:00' order by 4**

10. **Identify the earliest morning flight available from every airport. Early morning: 2:00 am to 6:00 am.**

Expected output: flight_id, flight_number, scheduled_departure, scheduled _arrival, departure airport and timings.

Answer: **with cte as(select flight_id, flight_no, scheduled_departure, scheduled_arrival, departure_airport,**

cast(scheduled_departure as time) timings from flights where cast(scheduled_departure as time) between '1:59' and '6:00'),

cte1 as(select flight_id, flight_no, scheduled_departure, scheduled_arrival, departure_airport, timings,

rank() over(partition by departure_airport order by timings asc) as rnk from cte),

cte2 as (select flight_id, flight_no, scheduled_departure, scheduled_arrival, departure_airport, timings from cte1 where rnk=1)

select * from cte2

11. **Questions: Find list of airport codes in Europe/Moscow timezone**

Expected Output: Airport_code.

Answer: **select airport_code from airports where timezone='Europe/Moscow'**

12. **Write a query to get the count of seats in various fare condition for every aircraft code?**

Expected Outputs: Aircraft_code, fare_conditions ,seat count

Answer: **select aircraft_code,fare_conditions,count(*) as seat_count from seats group by 1,2 order by 1,2**

13. **How many aircrafts codes have at least one Business class seats?**

Expected Output: Count of aircraft codes

Answer: **select count(*) from (select aircraft_ code, fare_conditions, count(fare_conditions) as seat_count from seats where fare_conditions = 'Business' group by 1,2 order by 1,2) as foo**

14. **Find out the name of the airport having maximum number of departure flight**

Expected Output: Airport_name

Answer: **select airport_name from (select f.departure_airport,a.airport_name,count(f.*) from flights f join airports a on a.airport_code=f.departure_airport group by 1,2 order by 3 desc) as foo limit 1**

15. **Find out the name of the airport having least number of scheduled departure flights**

Expected Output: Airport_name

Answer: **select airport_name from (select f.departure_ airport, a.airport_name, count(f.*) from flights f join airports a on a.airport_code=f.departure_airport group by 1,2 order by 3) as foo limit 1**

16. **How many flights from 'DME' airport don't have actual departure?**

Expected Output Flight Count

Answer: **select count(flight_no) from flights where departure_airport='DME' and actual_departure is null**

17. **Identify flight ids having range between 3000 to 6000**

Expected Output: Flight Number, aircraft_code, ranges

Answer: **select f.flight_no,f.aircraft_code,a.range from flights f join aircrafts a on a.aircraft_code=f.aircraft_code where a.range between 3000 and 6000 group by 1,2,3 order by 1**

18. **Write a query to get the count of flights flying between URS and KUF?**

Expected Output: Flight count

Answer: **select count(*) from flights where (departure_airport='URS' and arrival_airport='KUF') or (departure_airport='KUF' and arrival_airport='URS')**

19 **Write a query to get the count of flights flying from either from NOZ or KRR?**

Expected Output: Flight count

Answer: **select count(*) from flights where departure_airport='NOZ' or departure_airport='KRR'**

20. **Write a query to get the count of flights flying from KZN,DME,NBC,NJC, GDX,SGC, VKO,ROV**

Expected Output: Departure airport, count of flights flying from these airports.

Answer: **select departure_airport,count(*) as flight_count from flights where departure_airport in ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV') group by 1**

21. **Write a query to extract flight details having range between 3000 and 6000 and flying from DME**

Expected Output: Flight_no,aircraft_code,range,departure_airport

Answer: **select f.flight_no,f.aircraft_code,a.range,f.departure_airport from flights f join aircrafts a on a.aircraft_code=f.aircraft_code where (a.range between 3000 and 6000) and departure_airport='DME' group by 1,2,3,4**

22. **Find the list of flight ids which are using aircrafts from "Airbus" company and got cancelled or delayed**

Expected Output: Flight_id,aircraft_model

Answer: **select f.flight_id,a.model from aircrafts a join flights f on f.aircraft_code=a.aircraft_code where a.model like '%Airbus%' and (f.status in ('Cancelled','Delayed'))**

23. **Find the list of flight ids which are using aircrafts from "Boeing" company and got cancelled or delayed**

Expected Output: Flight_id,aircraft_model

Answer: **select f.flight_id,a.model from aircrafts a join flights f on f.aircraft_code=a.aircraft_code where a.model like '%Boeing%' and (f.status in ('Cancelled','Delayed'))**

24. **Which airport(name) has most cancelled flights (arriving)?**

Expected Output: Airport_name.

Answer: **select airport_name from (select f.arrival_airport,a.airport_name,count(f.*) from airports a join flights f on f.arrival_airport=a.airport_code where f.status='Cancelled' group by 1,2 order by 3 desc) as foo limit 1**

25. **Identify flight ids which are using "Airbus aircrafts"**

Expected Output: Flight_id, aircraft_model

Answer: **select f.flight_id,a.model from flights f join aircrafts a on f.aircraft_code=a.aircraft_code where a.model like '%Airbus%' group by 1,2**

26. **Identify date-wise last flight id flying from every airport?**

Expected Output: Flight_id, flight_number,schedule_departure,departure_airport
Answer: **select flight_id,flight_no,scheduled_departure,departure_airport from (select flight_id,flight_no,date(scheduled_departure) as d_date,scheduled_departure,departure_airport, rank() over(partition by date(scheduled_departure) order by scheduled_departure desc) from flights) as foo where rank=1**

27. **Identify list of customers who will get the refund due to cancellation of the flights and how much amount they will get?**

Expected Output: Passenger_name, total_refund.

Answer: **select t.passenger_name,b.total_amount as total_refund from tickets t join bookings b on t.book_ref=b.book_ref join boarding_passes bp on bp.ticket_no=t.ticket_no join flights f on f.flight_id=bp.flight_id where f.status='Cancelled'**

28. **Identify date wise first cancelled flight id flying for every airport?**

Expected Output: **select flight_id,flight_no,scheduled_departure,departure_airport from (select flight_id,flight_no,date(scheduled_departure),scheduled_departure,departure_airport,rank() over(partition by date(scheduled_departure),departure_airport order by scheduled_departure asc) from flights where status='Cancelled') as foo where rank=1**

29. **Identify list of Airbus flight ids which got cancelled.**

Expected Output: Flight_id

Answer: **select f.flight_id from flights f join aircrafts a on f.aircraft_code=a.aircraft_code where a.model like '%Airbus%' and f.status='Cancelled'**

30. **Identify list of flight ids having highest range.**

Expected Output: Flight_id, range

select f.flight_id,a.range from flights f join aircrafts a on a.aircraft_code=f.aircraft_code order by 2 desc