**1. Total Number of Unique Customers**

**Question: How many unique customers are present in the system?**

SELECT COUNT(DISTINCT customer\_id) AS total\_customers

FROM customer;



**2. Most Popular Flight Route**

**Question: Which flight route has the highest number of passengers?**

Select routes.origin\_airport,routes.destination\_airport,count(passengers\_on\_flights.customer\_id) as total\_passenger from passengers\_on\_flights

join routes

on

routes.route\_id = passengers\_on\_flights.route\_id

group by routes.origin\_airport,routes.destination\_airport

order by total\_passenger desc

limit 3;

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**3. Revenue per Flight Route**

**Question: What is the total revenue generated from ticket sales for each flight route?**

SELECT r.origin\_airport, r.destination\_airport, SUM(td.Price\_per\_ticket \* td.no\_of\_tickets) AS total\_revenue

FROM ticket\_details td

JOIN routes r

ON

td.aircraft\_id = r.aircraft\_id

GROUP BY r.origin\_airport, r.destination\_airport

ORDER BY total\_revenue DESC;



**4. Average Ticket Price per Route**

**Question: What is the average ticket price for each flight route?**

SELECT r.origin\_airport, r.destination\_airport, AVG(td.Price\_per\_ticket) AS avg\_ticket\_price

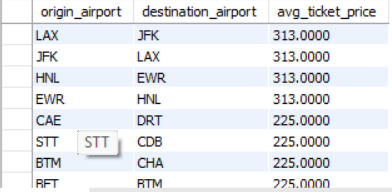
FROM ticket\_details td

JOIN routes r

ON

td.aircraft\_id = r.aircraft\_id

GROUP BY r.origin\_airport, r.destination\_airport;



**5. Top 10 Customers by Number of Tickets Purchased**

**Question: Which customers have purchased the most tickets overall?**

SELECT c.first\_name, c.last\_name, SUM(td.no\_of\_tickets) AS total\_tickets

FROM customer c

JOIN ticket\_details td

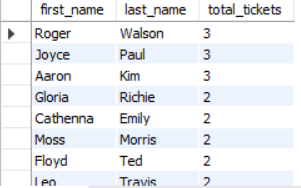
ON

c.customer\_id = td.customer\_id

GROUP BY c.customer\_id, c.first\_name, c.last\_name

ORDER BY total\_tickets DESC

LIMIT 10;



**6. Revenue Generated per Customer**

**Question: What is the total revenue generated from each customer?**

SELECT c.first\_name, c.last\_name, SUM(td.Price\_per\_ticket \* td.no\_of\_tickets) AS total\_revenue

FROM customer c

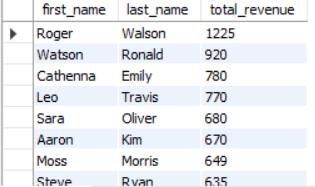
JOIN ticket\_details td

ON

c.customer\_id = td.customer\_id

GROUP BY c.customer\_id, c.first\_name, c.last\_name

ORDER BY total\_revenue DESC;



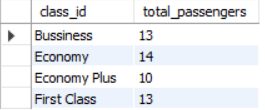
**7. Seat Class Preferences**

**Question: What is the distribution of seat classes chosen by passengers (economy, business, first class)?**

SELECT pf.class\_id, COUNT(pf.customer\_id) AS total\_passengers

FROM passengers\_on\_flights pf

GROUP BY pf.class\_id;



**8. Most Frequent Flyers**

**Question: Which customers have traveled the most on flights?**

SELECT c.first\_name, c.last\_name, COUNT(pf.flight\_num) AS total\_flights

FROM customer c

JOIN passengers\_on\_flights pf

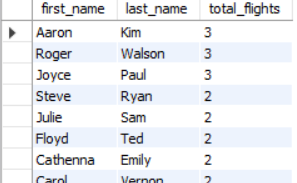
ON

c.customer\_id = pf.customer\_id

GROUP BY c.customer\_id, c.first\_name, c.last\_name

ORDER BY total\_flights DESC

LIMIT 10;



**9. Flight Occupancy by Route**

**Question: What is the average flight occupancy (number of passengers) for each route?**

SELECT r.origin\_airport, r.destination\_airport, COUNT(pf.customer\_id) AS total\_passengers

FROM passengers\_on\_flights pf

JOIN routes r ON pf.route\_id = r.route\_id

GROUP BY r.origin\_airport, r.destination\_airport;



**10. Revenue by Seat Class**

**Question: How much revenue is generated from each seat class across all flights?**

SELECT pf.class\_id, SUM(td.Price\_per\_ticket \* td.no\_of\_tickets) AS total\_revenue

FROM passengers\_on\_flights pf

JOIN ticket\_details td

ON

pf.customer\_id = td.customer\_id AND pf.aircraft\_id = td.aircraft\_id

GROUP BY pf.class\_id;

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**11. Flight Distance and Ticket Price Correlation**

**Question: Is there a correlation between flight distance (in miles) and ticket price?**

SELECT r.distance\_miles, AVG(td.Price\_per\_ticket) AS avg\_ticket\_price

FROM ticket\_details td

JOIN routes r

ON

td.aircraft\_id = r.aircraft\_id

GROUP BY r.distance\_miles

ORDER BY r.distance\_miles;

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**13. Top 5 Routes by Revenue**

**Question: Which 5 routes generate the highest revenue from ticket sales?**

SELECT r.origin\_airport, r.destination\_airport, SUM(td.Price\_per\_ticket \* td.no\_of\_tickets) AS total\_revenue

FROM ticket\_details td

JOIN routes r

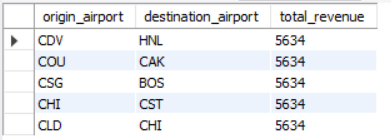
ON

td.aircraft\_id = r.aircraft\_id

GROUP BY r.origin\_airport, r.destination\_airport

ORDER BY total\_revenue DESC

LIMIT 5;



**14. Average Revenue per Flight**

**Question: What is the average revenue generated per flight for each aircraft?**

SELECT pf.aircraft\_id, AVG(td.Price\_per\_ticket \* td.no\_of\_tickets) AS avg\_revenue

FROM passengers\_on\_flights pf

JOIN ticket\_details td

ON

pf.customer\_id = td.customer\_id AND pf.aircraft\_id = td.aircraft\_id

GROUP BY pf.aircraft\_id;

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**15. Most Profitable Routes**

**Question: Which routes are the most profitable based on the number of passengers and ticket prices?**

SELECT r.origin\_airport, r.destination\_airport, SUM(td.Price\_per\_ticket \* td.no\_of\_tickets) AS total\_revenue, COUNT(pf.customer\_id) AS total\_passengers

FROM passengers\_on\_flights pf

JOIN ticket\_details td

ON

pf.customer\_id = td.customer\_id AND pf.aircraft\_id = td.aircraft\_id

JOIN routes r

ON

pf.route\_id = r.route\_id

GROUP BY r.origin\_airport, r.destination\_airport

ORDER BY total\_revenue DESC;

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