CREATE DATABASE flight\_38;

use flight\_38;

SELECT \* FROM flights;

-- 1. Find the month with most number of flights

SELECT MONTHNAME(date\_of\_journey),COUNT(\*)

FROM flights

GROUP BY MONTHNAME(date\_of\_journey)

ORDER BY COUNT(\*) DESC LIMIT 1;

-- 2. Which week day has most costly flights

SELECT DAYNAME(date\_of\_journey),AVG(price) FROM flights

GROUP BY DAYNAME(date\_of\_journey)

ORDER BY AVG(price) DESC LIMIT 1;

-- Find number of indigo flights every month

SELECT MONTHNAME(date\_of\_journey),COUNT(\*) FROM flights

WHERE airline = 'Indigo'

GROUP BY MONTHNAME(date\_of\_journey)

ORDER BY MONTH(date\_of\_journey) ASC;

SELECT MONTHNAME(date\_of\_journey), COUNT(\*)

FROM flights

WHERE airline = 'Indigo'

GROUP BY MONTH(date\_of\_journey)

ORDER BY MONTH(date\_of\_journey) ASC;

-- this is working in my pc

SELECT MONTHNAME(MIN(date\_of\_journey)), COUNT(\*)

FROM flights

WHERE airline = 'Indigo'

GROUP BY MONTH(date\_of\_journey)

ORDER BY MONTH(date\_of\_journey) ASC;

-- 4. Find list of all flights that depart between 10AM and 2PM from Delhi to Banglore

SELECT \* FROM flights

WHERE source = 'Banglore' AND

destination = 'Delhi' AND

dep\_time > '10:00:00' AND dep\_time < '14:00:00';

-- --5. Find the number of flights departing on weekends from Bangalore

SELECT COUNT(\*) FROM flights

WHERE source = 'banglore' AND

DAYNAME(date\_of\_journey) IN ('saturday','sunday');

-- --6. Calculate the arrival time for all flights by adding the duration to the departure time.

ALTER TABLE flights ADD COLUMN departure DATETIME;

UPDATE flights

SET departure = STR\_TO\_DATE(CONCAT(date\_of\_journey,' ',dep\_time),'%Y-%m-%d %H:%i');

ALTER TABLE flights

ADD COLUMN duration\_mins INTEGER,

ADD COLUMN arrival DATETIME;

SELECT \* FROM flights;

SELECT Duration,

REPLACE(SUBSTRING\_INDEX(duration,' ',1),'h','')\*60 +

CASE

WHEN SUBSTRING\_INDEX(duration,' ',-1) = SUBSTRING\_INDEX(duration,' ',1) THEN 0

ELSE REPLACE(SUBSTRING\_INDEX(duration,' ',-1),'m','')

END AS 'mins'

FROM flights;

-- this code is not working for me

-- UPDATE flights

-- SET duration\_mins = REPLACE(SUBSTRING\_INDEX(duration,' ',1),'h','')\*60 +

-- CASE

-- WHEN SUBSTRING\_INDEX(duration,' ',-1) = SUBSTRING\_INDEX(duration,' ',1) THEN 0

-- ELSE REPLACE(SUBSTRING\_INDEX(duration,' ',-1),'m','')

-- END;

SELECT \* FROM flights;

UPDATE flights

SET duration\_mins = REPLACE(SUBSTRING\_INDEX(duration,' ',1),'h','')\*60 +

CASE

WHEN SUBSTRING\_INDEX(duration,' ',-1) = SUBSTRING\_INDEX(duration,' ',1) THEN 0

WHEN SUBSTRING\_INDEX(duration,' ',-1) REGEXP '^[0-9]+$' THEN SUBSTRING\_INDEX(duration,' ',-1)

ELSE REPLACE(SUBSTRING\_INDEX(duration,' ',-1),'m','')

END

WHERE duration REGEXP '^[0-9]+h [0-9]+m$' OR duration REGEXP '^[0-9]+h$';

SELECT DISTINCT duration FROM flights;

SELECT \* FROM flights;

UPDATE flights

SET arrival = DATE\_ADD(departure,INTERVAL duration\_mins MINUTE);

SELECT \* FROM flights;

SELECT TIME(arrival) FROM flights;

-- 7. Calculate the arrival date for all the flights

SELECT DATE(arrival) FROM flights;

SELECT \* FROM flights;

-- 8. Find the number of flights which travel on multiple dates.

SELECT COUNT(\*) FROM flights

WHERE DATE(departure) != DATE(arrival);

-- Answer from chatgpt

SELECT COUNT(\*) AS num\_multi\_date\_flights

FROM (

SELECT Airline, Source, Destination, COUNT(DISTINCT Date\_of\_Journey) AS num\_dates

FROM flights

GROUP BY Airline, Source, Destination

HAVING num\_dates > 1

) AS multi\_date\_flights;

-- 9. Calculate the average duration of flights between all city pairs. The answer should In xh ym format

SELECT source,destination,

TIME\_FORMAT(SEC\_TO\_TIME(AVG(duration\_mins)\*60),'%kh %im') AS 'avg\_duration' FROM

flights

GROUP BY source,destination;

-- 10. Find all flights which departed before midnight but arrived at their destination after midnight having only 0 stops.

SELECT \* FROM flights

WHERE total\_stops = 'non-stop' AND

DATE(departure) < DATE(arrival);

-- 11.Find quarter wise number of flights for each airline

SELECT airline,QUARTER(departure),COUNT(\*)

FROM flights

GROUP BY airline,QUARTER(departure);

-- 12.find the longest flight distance (between city in terms of time) in india

SELECT Source, Destination, MAX(Duration) AS longest\_duration

FROM flights

WHERE Source IN (SELECT DISTINCT Source FROM flights WHERE Source LIKE '%India%')

AND Destination IN (SELECT DISTINCT Destination FROM flights WHERE Destination LIKE '%India%')

GROUP BY Source, Destination

ORDER BY longest\_duration DESC

LIMIT 1;

-- 13.Average time duration for flights that have 1 stop vs more than 1 stops

WITH temp\_table AS (SELECT \*,

CASE

WHEN total\_stops = 'non-stop' THEN 'non-stop'

ELSE 'with stop'

END AS 'temp'

FROM flights)

SELECT temp,

TIME\_FORMAT(SEC\_TO\_TIME(AVG(duration\_mins)\*60),'%kh %im') AS 'avg\_duration',

AVG(price) AS 'avg\_price'

FROM temp\_table

GROUP BY temp;

-- 14. Find all Air India flights in a given date range originating from Delhi

-- 1st Mar 2019 to 10th Mar 2019

SELECT \* FROM flights

WHERE source = 'Delhi' AND

DATE(departure) BETWEEN '2019-03-01' AND '2019-03-10';

-- 15.Find the longest flight of each airline

SELECT airline,

TIME\_FORMAT(SEC\_TO\_TIME(MAX(duration\_mins)\*60),'%kh %im') AS 'max\_duration'

FROM flights

GROUP BY airline

ORDER BY MAX(duration\_mins) DESC;

-- 16. Find all the pair of cities having average time duration > 3 hours

SELECT source,destination,

TIME\_FORMAT(SEC\_TO\_TIME(AVG(duration\_mins)\*60),'%kh %im') AS 'avg\_duration' FROM

flights

GROUP BY source,destination

HAVING AVG(duration\_mins) > 180;

-- 17. Make a weekday vs time grid showing frequency of flights from Banglore and Delhi

SELECT DAYNAME(departure) AS weekday,

SUM(CASE WHEN HOUR(departure) BETWEEN 0 AND 5 THEN 1 ELSE 0 END) AS '12AM - 6AM',

SUM(CASE WHEN HOUR(departure) BETWEEN 6 AND 11 THEN 1 ELSE 0 END) AS '6AM - 12PM',

SUM(CASE WHEN HOUR(departure) BETWEEN 12 AND 17 THEN 1 ELSE 0 END) AS '12PM - 6PM',

SUM(CASE WHEN HOUR(departure) BETWEEN 18 AND 23 THEN 1 ELSE 0 END) AS '6PM - 12AM'

FROM flights

WHERE source = 'Banglore' AND destination = 'Delhi'

GROUP BY DAYNAME(departure), DAYOFWEEK(departure)

ORDER BY DAYOFWEEK(departure) ASC;

-- 18. Make a weekday vs time grid showing avg flight price from Banglore and Delhi

SELECT DAYNAME(departure),

AVG(CASE WHEN HOUR(departure) BETWEEN 0 AND 5 THEN price ELSE NULL END) AS '12AM - 6AM',

AVG(CASE WHEN HOUR(departure) BETWEEN 6 AND 11 THEN price ELSE NULL END) AS '6AM - 12PM',

AVG(CASE WHEN HOUR(departure) BETWEEN 12 AND 17 THEN price ELSE NULL END) AS '12PM - 6PM',

AVG(CASE WHEN HOUR(departure) BETWEEN 18 AND 23 THEN price ELSE NULL END) AS '6PM - 12PM'

FROM flights

WHERE source = 'Banglore' AND destination = 'Delhi'

GROUP BY DAYNAME(departure), departure

ORDER BY DAYOFWEEK(departure) ASC;