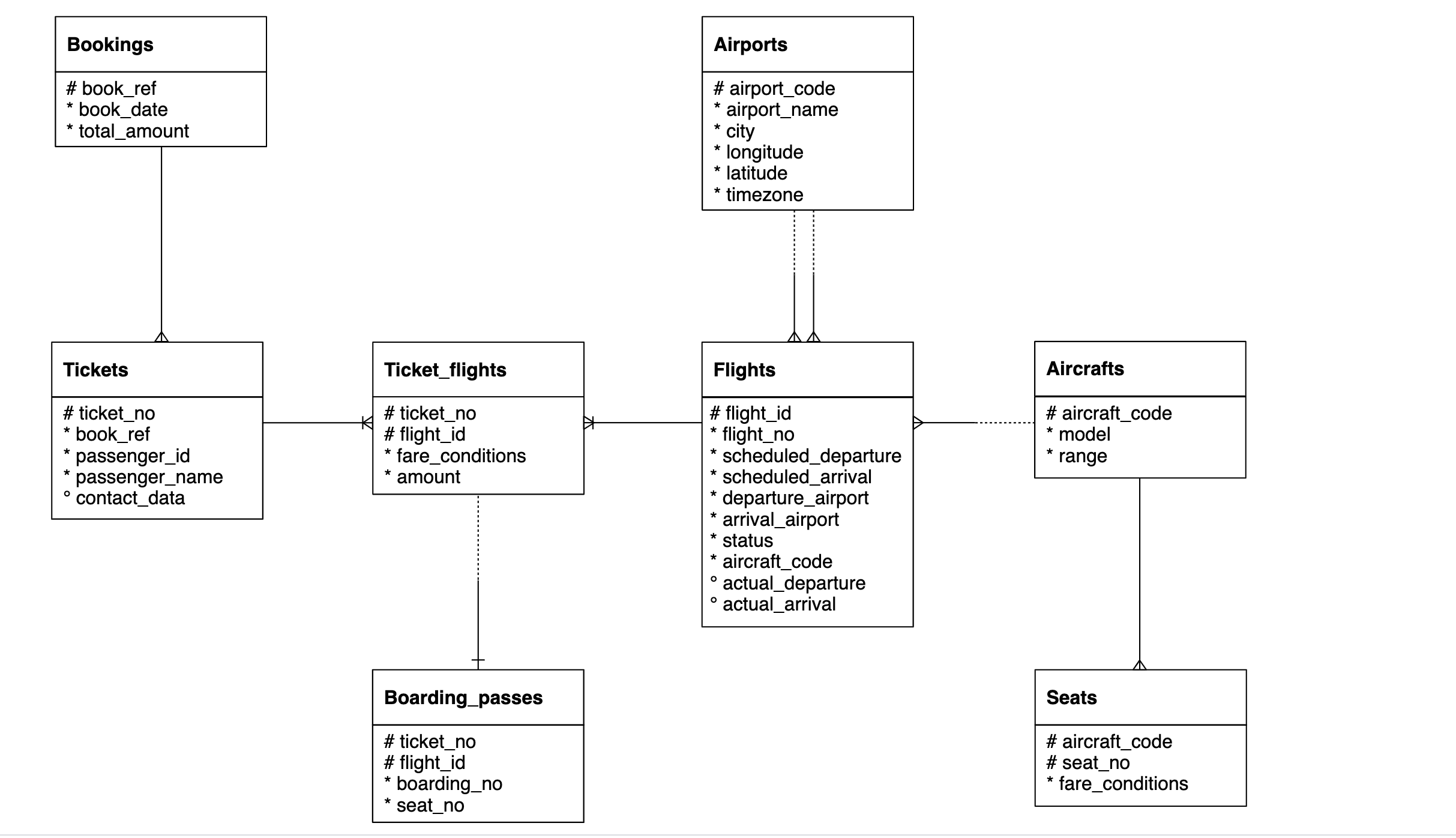
**SQL Assignment: All concepts I**

**Download the following database file from the link:**

**AirlineDB**: https://drive.google.com/file/d/15ehp3FtyuYqExne3FaFcWHB4TFI\_vtSR/view?usp=sharing

**Table structure**



Important Instructions:

* Download the database link and restore in postgres. For restoration, you can refer to the instructions in the first chapter of SQL
* The AirlineDB is quite big in size, hence restoration might take time. Once the restoration starts, wait for 15 to 20 mins and don’t shut down the computer
* Table names in database has “**booking.”** as prefix. For example, bookings.tickets, bookings.boarding\_passes. Hence use the prefix in the query as well
  + Correct way of accessing tables: SELECT \* FROM **bookings.tickets**
  + Wrong way of accessing tables: SELECT \* FROM tickets
* Queries need to be submitted in a **word/text file**. CSV output of the queries will **NOT** be accepted
* Expected output written is written in some of the following question to make sure that you are getting the columns in the same sequence. It doesn’t mean that you will get same values in the output. The exact values in your queries might be different depending on the values sorted in your copy of database.

1. Represent the “book\_date” column in “yyyy-mmm-dd”. User Bookings table

*Expected output*



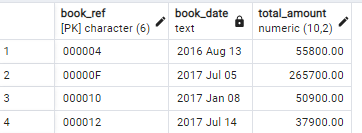
Solution:- SELECT

book\_ref,

to\_char(book\_date,'yyyy Mon dd') as book\_date,

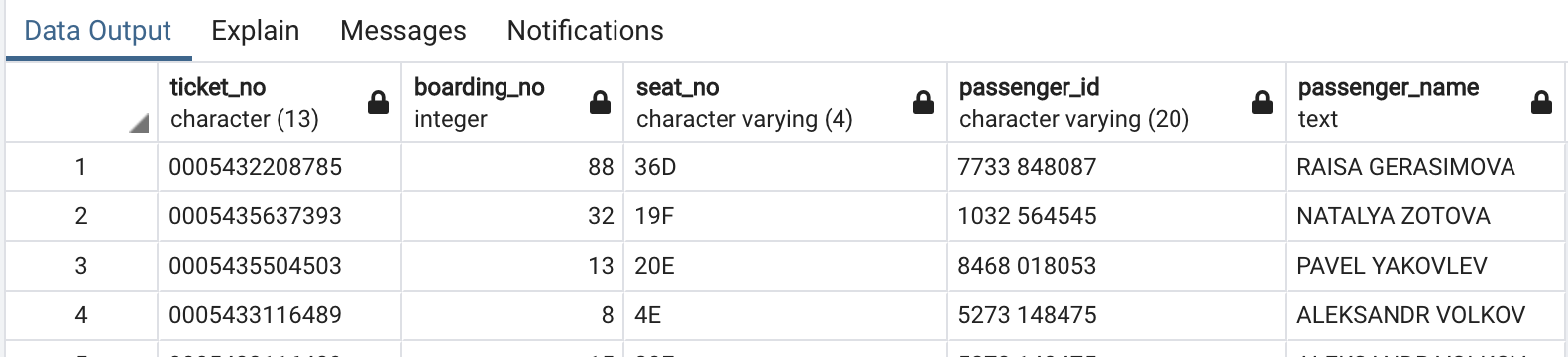
total\_amount

FROM bookings.bookings



1. Create a table having ticket\_no, boarding\_no, seat\_number, passenger\_id, passenger\_name.

*Expected output*



Solution:-

CREATE TABLE IF NOT EXISTS bookings.Details (

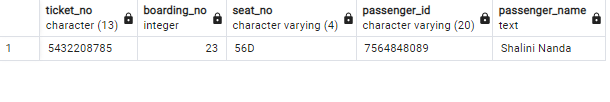
ticket\_no character(13),

boarding\_no integer NOT NULL,

seat\_number character varying(4),

passenger\_id character varying(20),

passenger\_name text

); 

1. Which seat number is least allocated among all the seats?

Solutions:-

SELECT

seat\_no,

COUNT(seat\_no) AS frequency

FROM

bookings.boarding\_passes

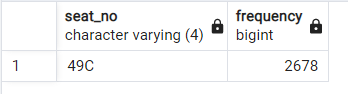
GROUP BY

seat\_no

ORDER BY

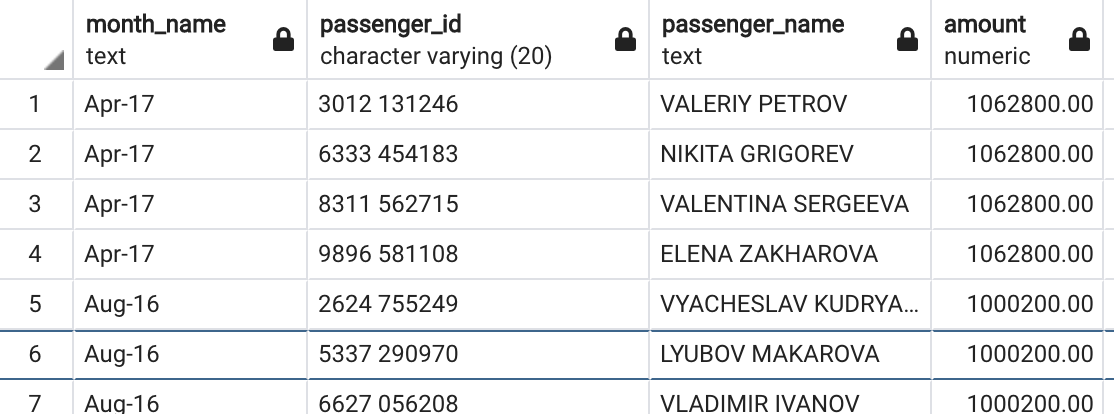
Frequency

LIMIT 1;



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

*Expected output*



Solution:-

SELECT

to\_char(B.book\_date,'Mon-dd') month\_name,

T.passenger\_id,

T.passenger\_name,

MAX(B.total\_amount) Amount

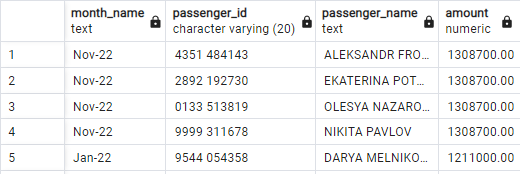
FROM bookings.bookings B

FULL OUTER JOIN bookings.tickets T

on B.book\_ref = T.book\_ref

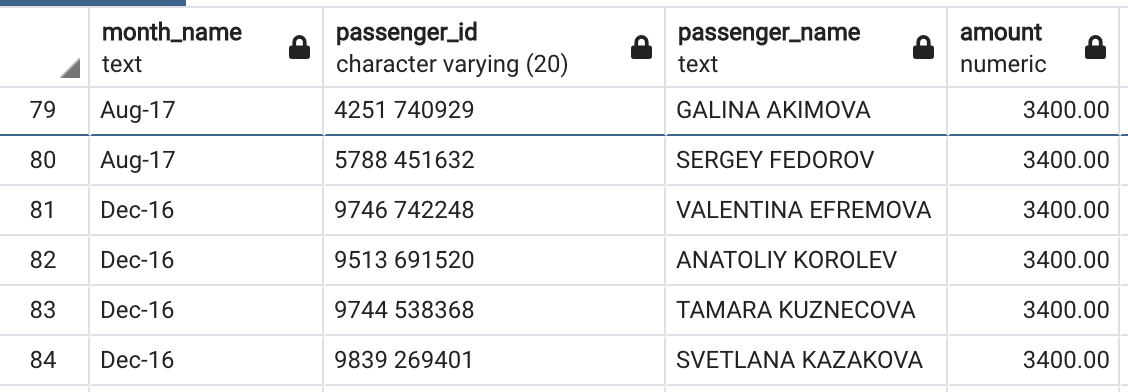
GROUP BY 1,2,3

ORDER BY 4 DESC



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

*Expected output*



Solution:-

SELECT

to\_char(B.book\_date,'Mon-dd') month\_name,

T.passenger\_id,

T.passenger\_name,

MIN(B.total\_amount) Amount

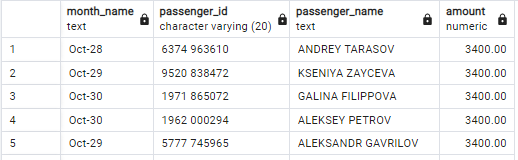
FROM bookings.bookings B

FULL OUTER JOIN bookings.tickets T

on B.book\_ref = T.book\_ref

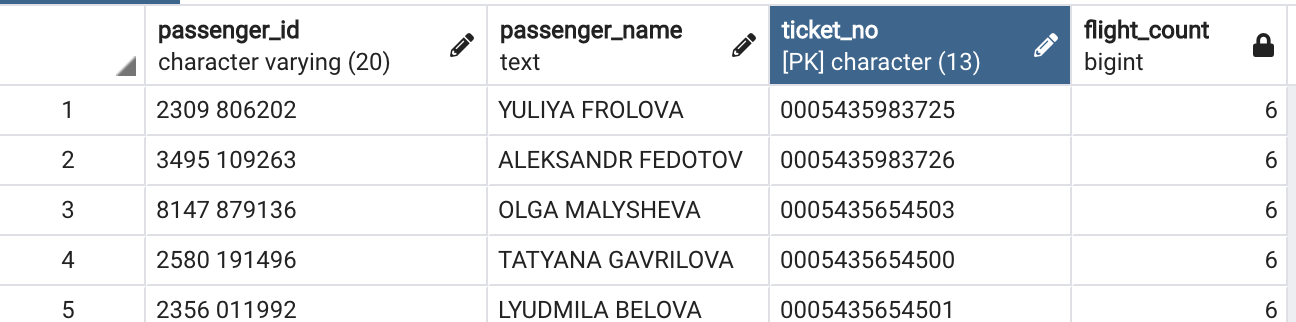
GROUP BY 1,2,3

ORDER BY 4



1. Identify the travel details of non no stop journeys or return journeys (having more than 1 flight).

*Expected output*



Solution:-

SELECT

T.passenger\_id,

T.passenger\_name,

T.ticket\_no,

COUNT(F.flight\_no) Flight\_count

FROM bookings.tickets T

INNER JOIN bookings.ticket\_flights TF

ON T.ticket\_no = TF.ticket\_no

INNER JOIN bookings.flights F

ON TF.flight\_id = F.flight\_id

GROUP BY 1,2,3

HAVING COUNT(F.flight\_no) > 1



1. How many tickets are there without boarding passes?

Solution :-

SELECT

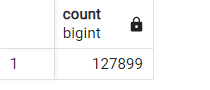
COUNT(T.ticket\_no)

FROM bookings.tickets T

LEFT JOIN bookings.boarding\_passes B

ON T.ticket\_no = B.ticket\_no

WHERE B.boarding\_no IS NULL



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

Solution:-

SELECT

flight\_id,

flight\_no,

departure\_airport,

arrival\_airport,

status,

aircraft\_code,

EXTRACT(hour FROM (scheduled\_arrival - scheduled\_departure)) AS duration

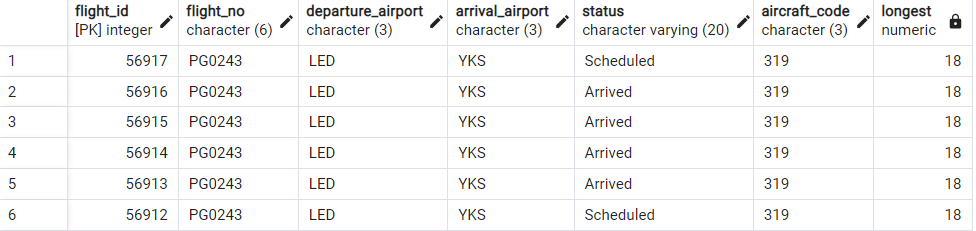
FROM

bookings.flights

ORDER BY

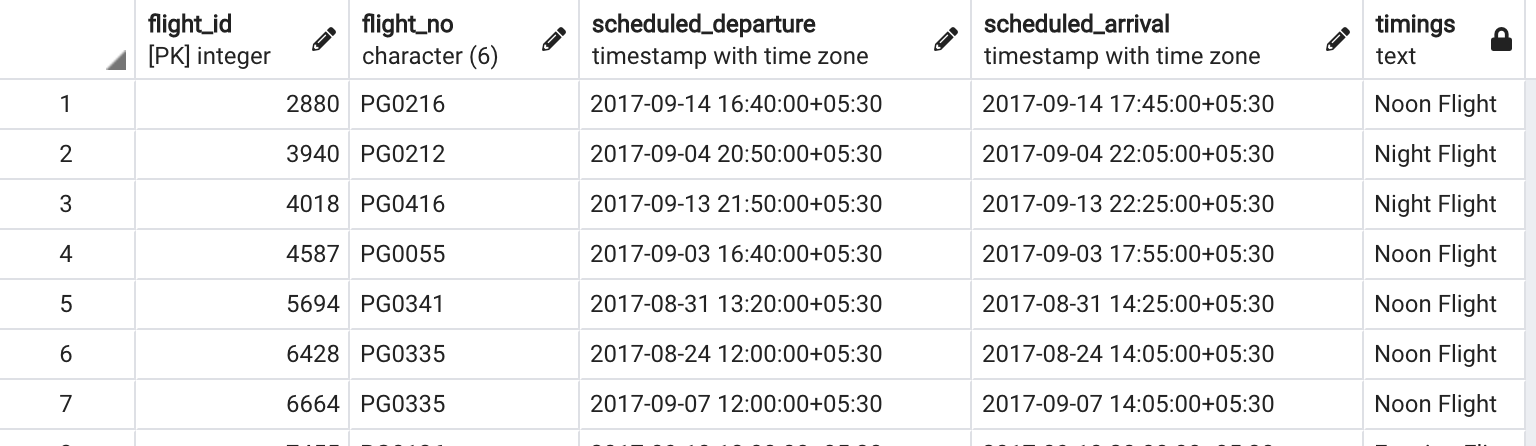
duration DESC

LIMIT 1;



1. Categorize flights using following logic (using flights table) :
   1. Early morning flights: 2 AM to 6AM
   2. Morning flights: 6 AM to 11 AM
   3. Noon flights: 11 AM to 4 PM
   4. Evening flights: 4 PM to 7 PM
   5. Night flights: 7 PM to 11 PM
   6. Late Night flights: 11 PM to 2 AM

*Expected output*



Solution:-

SELECT

flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,

CASE

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '02' AND '06' THEN 'Early morning flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '06' AND '11' THEN 'Morning flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '11' AND '16' THEN 'Noon flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '16' AND '19' THEN 'Evening flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

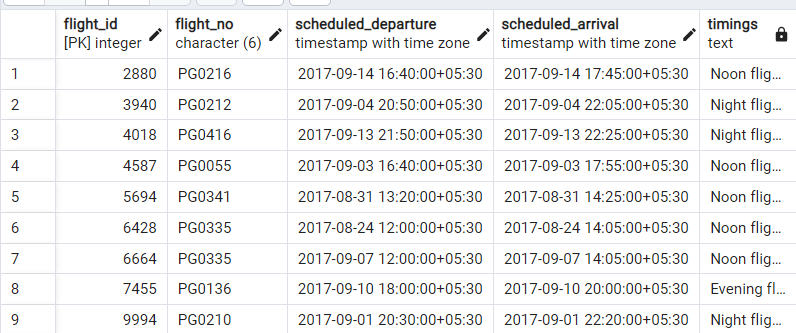
BETWEEN '19' AND '23' THEN 'Night flights'

ELSE 'Late Night flights'

END AS Timings

FROM bookings.flights

LIMIT 15



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

Solutions:-

WITH Morning\_Time AS

(SELECT

flight\_id,flight\_no,scheduled\_departure,scheduled\_arrival,

CASE

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '02' AND '06' THEN 'Early morning flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '06' AND '11' THEN 'Morning flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '11' AND '16' THEN 'Noon flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '16' AND '19' THEN 'Evening flights'

WHEN TO\_CHAR(scheduled\_departure,'HH24')

BETWEEN '19' AND '23' THEN 'Night flights'

ELSE 'Late Night flights'

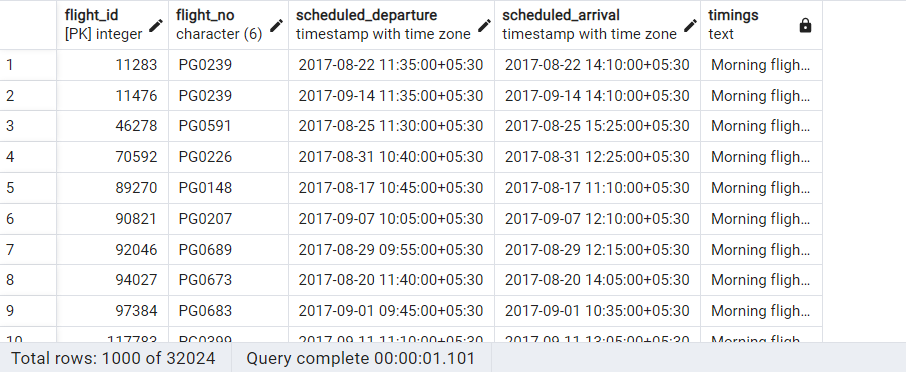
END AS Timings

FROM bookings.flights

)

SELECT \* FROM Morning\_Time

WHERE Timings = 'Morning flights'



Solution :-

WITH Morning\_Time AS (

SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

CASE

WHEN TO\_CHAR(scheduled\_departure, 'HH24') BETWEEN '02' AND '06' THEN 'Early morning flights'

WHEN TO\_CHAR(scheduled\_departure, 'HH24') BETWEEN '06' AND '11' THEN 'Morning flights'

WHEN TO\_CHAR(scheduled\_departure, 'HH24') BETWEEN '11' AND '16' THEN 'Noon flights'

WHEN TO\_CHAR(scheduled\_departure, 'HH24') BETWEEN '16' AND '19' THEN 'Evening flights'

WHEN TO\_CHAR(scheduled\_departure, 'HH24') BETWEEN '19' AND '23' THEN 'Night flights'

ELSE 'Late Night flights'

END AS Timings

FROM

bookings.flights

)

SELECT

departure\_airport,

MIN(scheduled\_departure) AS earliest\_departure,

flight\_id,

flight\_no

FROM

Morning\_Time

WHERE

Timings = 'Morning flights'

GROUP BY

departure\_airport, flight\_id, flight\_no;