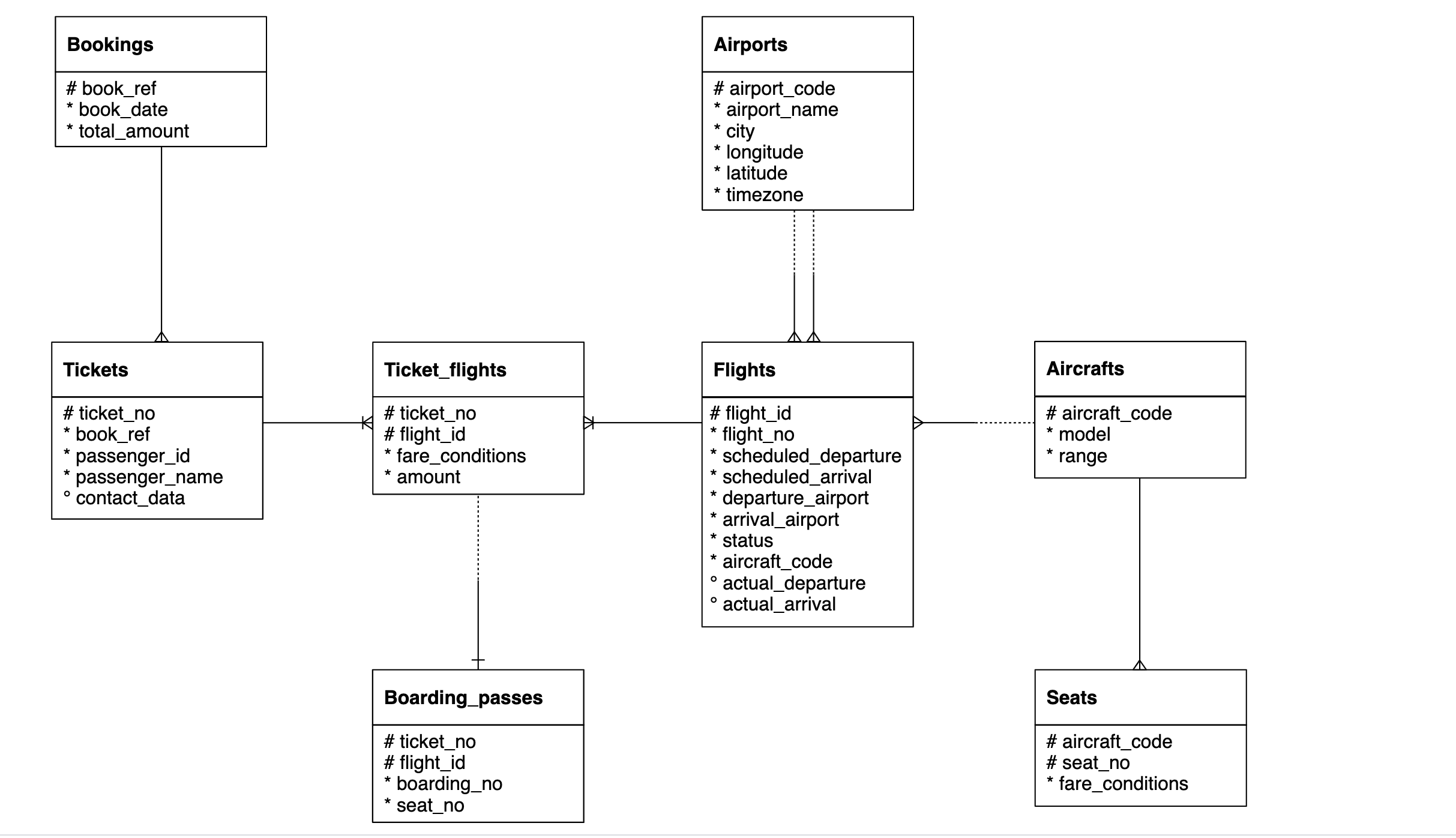
**SQL Assignment: All concepts I**

**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

ANSWER: SELECT

book\_ref,

to\_char(book\_date,'YYYY-MON-DD')book\_date,

total\_amount

FROM bookings.bookings

*Expected output*



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

ANSWER: SELECT

T.ticket\_no,

B.boarding\_no,

B.seat\_no,

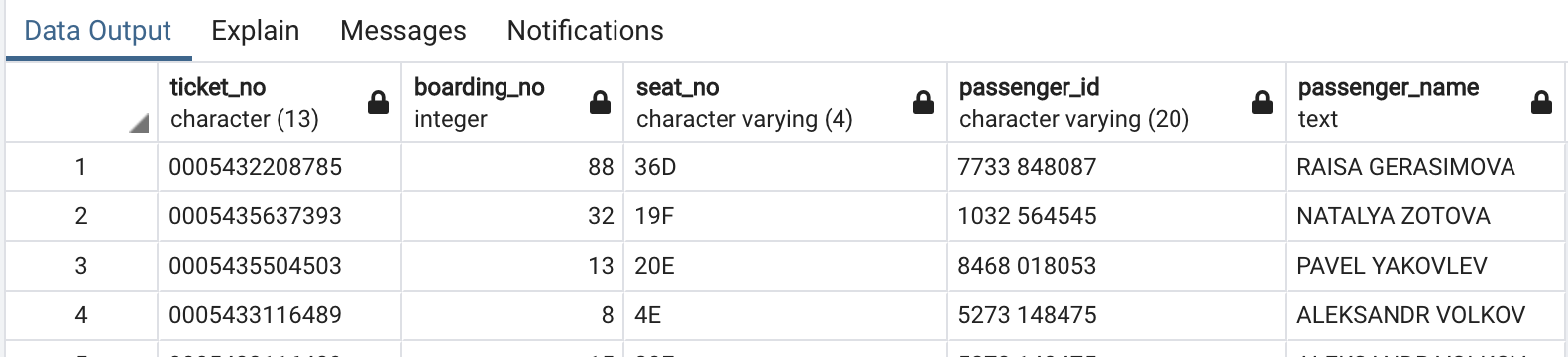
T.passenger\_id,

T.passenger\_name

FROM bookings.Tickets T

JOIN bookings.Boarding\_passes B ON T.ticket\_no=B.ticket\_no

*Expected output*



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

ANSWER: SELECT

seat\_no,

COUNT( seat\_no) AS C\_seat

FROM bookings.Boarding\_passes

GROUP BY seat\_no

ORDER BY C\_seat ASC

LIMIT 1

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

ANSWER: SELECT

\*

FROM(SELECT

RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount DESC) AS Rank,

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM

(SELECT

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

T.passenger\_id,

T.passenger\_name,

B.total\_amount

FROM bookings.Bookings B

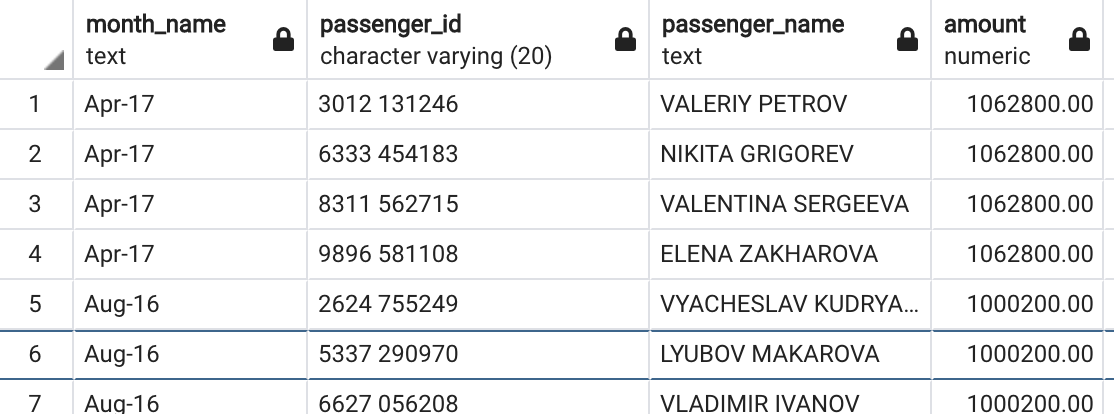
JOIN bookings.Tickets T

ON B.book\_ref=T.book\_ref

ORDER BY month\_name ASC,B.total\_amount DESC) as A\_table) as B\_table

WHERE Rank=1

*Expected output*



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

ANSWER: SELECT

\*

FROM(SELECT

RANK() OVER (PARTITION BY month\_name ORDER BY total\_amount ASC) AS Rank,

month\_name,

passenger\_id,

passenger\_name,

total\_amount

FROM

(SELECT

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

T.passenger\_id,

T.passenger\_name,

B.total\_amount

FROM bookings.Bookings B

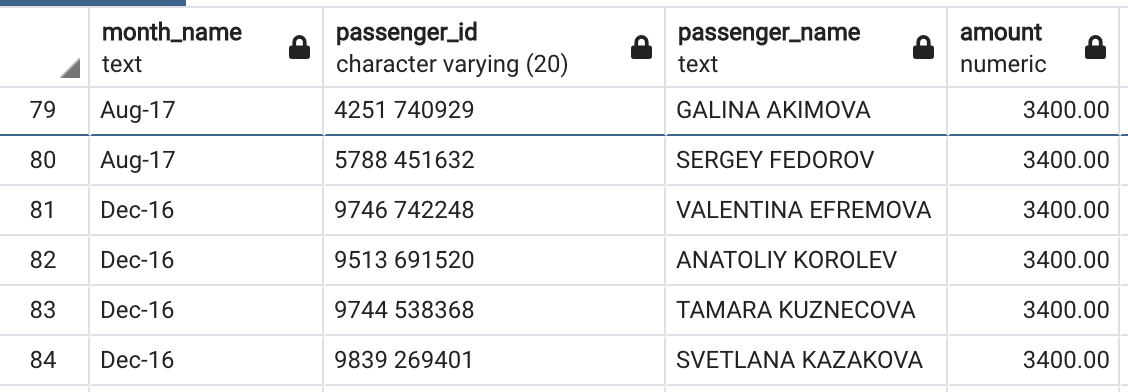
JOIN bookings.Tickets T

ON B.book\_ref=T.book\_ref

ORDER BY month\_name ASC,B.total\_amount ASC) as A\_table) as B\_table

WHERE Rank=1

*Expected output*



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

ANSWER: SELECT

T.passenger\_id,

T.passenger\_name,

F.ticket\_no,

COUNT(F.ticket\_no) AS flight\_count

FROM bookings.Tickets T

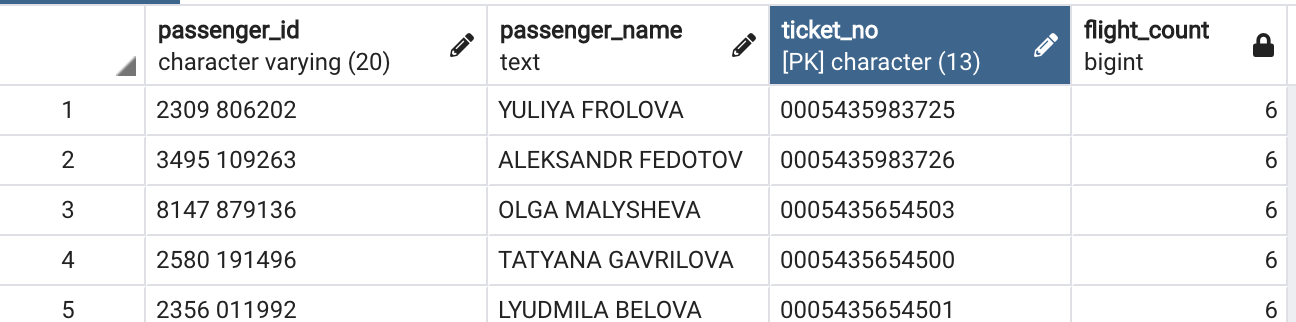
JOIN bookings.Ticket\_flights F

ON T.ticket\_no=F.ticket\_no

GROUP BY T.passenger\_id,T.passenger\_name,F.ticket\_no

HAVING COUNT(F.ticket\_no) > 1

*Expected output*



1. How many tickets are there without boarding passes?

ANSWER: SELECT

COUNT(T.ticket\_no)

FROM bookings.Tickets T

FULL OUTER JOIN bookings.boarding\_passes B

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

WHERE B.ticket\_no is NULL

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

ANSWER: SELECT

\*

FROM(SELECT

RANK() OVER (ORDER BY DIFFERENCE DESC) Rank,

\*

FROM(SELECT

\*,

EXTRACT(EPOCH FROM(Scheduled\_arrival-Scheduled\_departure)) AS DIFFERENCE

FROM bookings.flights) TABLEA\_B) TABLEC\_D

WHERE Rank=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

ANSWER: SELECT

\*,

CASE

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '02:00:00' AND '06:00:00' THEN 'Early Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '06:00:00' AND '11:00:00' THEN 'Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '11:00:00' AND '16:00:00' THEN 'Noon Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '16:00:00' AND '19:00:00' THEN 'Evening Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '19:00:00' AND '23:00:00' THEN 'Night Flight'

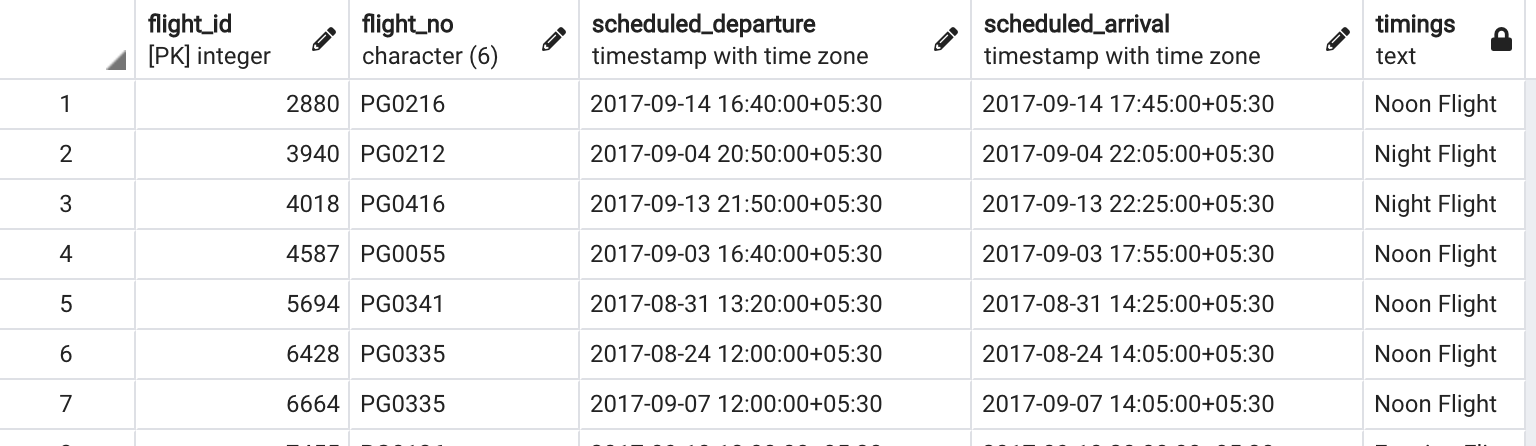
WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '23:00:00' AND '02:00:00' THEN 'Late Night Flight'

END AS Timings

FROM bookings.flights

*Expected output*



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

ANSWER: SELECT

\*

FROM(SELECT

\*,

CASE

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '02:00:00' AND '06:00:00' THEN 'Early Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '06:00:00' AND '11:00:00' THEN 'Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '11:00:00' AND '16:00:00' THEN 'Noon Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '16:00:00' AND '19:00:00' THEN 'Evening Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '19:00:00' AND '23:00:00' THEN 'Night Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '23:00:00' AND '02:00:00' THEN 'Late Night Flight'

END AS Timings

FROM bookings.flights) AS TABLEA\_B

WHERE Timings='Morning Flight'

1. Identify the earliest morning flight available from every airport.

ANSWER: SELECT

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

Timings

FROM(SELECT

RANK() OVER (PARTITION BY departure\_airport ORDER BY scheduled\_departure ASC ) AS Rank,

flight\_id,

flight\_no,

scheduled\_departure,

scheduled\_arrival,

departure\_airport,

Timings

FROM(SELECT

\*,

CAST(scheduled\_departure AS TIME) AS HOUR ,

CASE

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '02:00:00' AND '06:00:00' THEN 'Early Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '06:00:00' AND '11:00:00' THEN 'Morning Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '11:00:00' AND '16:00:00' THEN 'Noon Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '16:00:00' AND '19:00:00' THEN 'Evening Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '19:00:00' AND '23:00:00' THEN 'Night Flight'

WHEN

CAST(scheduled\_departure AS TIME) BETWEEN '23:00:00' AND '02:00:00' THEN 'Late Night Flight'

END AS Timings

FROM bookings.flights) AS TABLEA\_B

WHERE Timings='Morning Flight' ) AS TABLEC\_D

WHERE Rank=1

*Expected output*

