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') BOOK\_DATE,

TOTAL\_AMOUNT

FROM BOOKINGS

1. **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

    B.TICKET\_NO,

    B.BOARDING\_NO,

    B.SEAT\_NO,

    T.PASSENGER\_ID,

    T.PASSENGER\_NAME

FROM BOARDING\_PASSES B

JOIN TICKETS T

ON B.TICKET\_NO = T.TICKET\_NO

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

**Answer:** SELECT

    SEAT\_NO,

    COUNT(SEAT\_NO) ALLOCATED\_NO

FROM BOARDING\_PASSES

GROUP BY SEAT\_NO

HAVING COUNT(SEAT\_NO) = 1

1. ***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 T1 AS

(

    SELECT

        TO\_CHAR(B.BOOK\_DATE,'Mon-YY') MONTH\_NAME,

        T.PASSENGER\_ID,

        T.PASSENGER\_NAME,

        MAX(B.TOTAL\_AMOUNT) AS TOTAL\_AMOUNT

    FROM BOOKINGS B

    JOIN TICKETS T

    ON B.BOOK\_REF = T.BOOK\_REF

    GROUP BY 1,2,3

),

T2 AS

(

    SELECT

        \*,

        RANK()

OVER(PARTITION BY MONTH\_NAME ORDER BY TOTAL\_AMOUNT DESC) AS RNK

    FROM T1

)

SELECT

    MONTH\_NAME,

    PASSENGER\_ID,

    PASSENGER\_NAME,

    TOTAL\_AMOUNT

FROM T2

WHERE RNK = 1

1. ***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 T1 AS

(

    SELECT

        TO\_CHAR(B.BOOK\_DATE,'Mon-YY') MONTH\_NAME,

        T.PASSENGER\_ID,

        T.PASSENGER\_NAME,

        MAX(B.TOTAL\_AMOUNT) AS TOTAL\_AMOUNT

    FROM BOOKINGS B

    JOIN TICKETS T

    ON B.BOOK\_REF = T.BOOK\_REF

    GROUP BY 1,2,3

),

T2 AS

(

    SELECT

        \*,

        RANK()

OVER(PARTITION BY MONTH\_NAME ORDER BY TOTAL\_AMOUNT ASC) AS RNK

    FROM T1

)

SELECT

    MONTH\_NAME,

    PASSENGER\_ID,

    PASSENGER\_NAME,

    TOTAL\_AMOUNT

FROM T2

WHERE RNK = 1

1. **Identify the travel details of non stop journeys or return journeys (having more than 1 flight).**

Expected Output: Passenger\_id, passenger\_name, ticket\_number and flight count.

**Answer:** SELECT

    T.PASSENGER\_ID,

    T.PASSENGER\_NAME,

    T.TICKET\_NO,

    COUNT(TF.TICKET\_NO) AS FLIGHT\_COUNT

FROM TICKETS T

JOIN TICKET\_FLIGHTS TF

ON T.TICKET\_NO = TF.TICKET\_NO

GROUP BY 1,2,3

HAVING COUNT(TF.TICKET\_NO) > 1

ORDER BY 4 DESC, 1 DESC

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

Expected Output: just one number is required.

**Answer:** SELECT

    COUNT(\*)

FROM TICKETS T

LEFT JOIN BOARDING\_PASSES BP

ON T.TICKET\_NO = BP.TICKET\_NO

WHERE BP.TICKET\_NO IS NULL

1. **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,

    TO\_CHAR((ACTUAL\_ARRIVAL -ACTUAL\_DEPARTURE),'HH24:MI:SS') DURATIONS

FROM FLIGHTS

WHERE ACTUAL\_ARRIVAL IS NOT NULL AND ACTUAL\_DEPARTURE IS NOT NULL

ORDER BY 5 DESC

LIMIT 1

1. **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,

    TO\_CHAR(SCHEDULED\_DEPARTURE,'HH24:MI:SS') ||'-'|| TO\_CHAR(SCHEDULED\_ARRIVAL,'HH24:MI:SS') AS TIMINGS

FROM FLIGHTS

WHERE EXTRACT (HOUR FROM SCHEDULED\_DEPARTURE) >= 6

AND EXTRACT (HOUR FROM SCHEDULED\_DEPARTURE) < 11

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

Expected output: flight\_id, flight\_number, scheduled\_departure, scheduled\_arrival, departure airport and timings.

**Answer:** WITH T1 AS

(

SELECT

    FLIGHT\_ID,

    FLIGHT\_NO,

    TO\_CHAR(SCHEDULED\_DEPARTURE,'HH12:MI:SS AM') SCHEDULED\_DEPARTURE,

    TO\_CHAR(SCHEDULED\_ARRIVAL,'HH12:MI:SS AM') SCHEDULED\_ARRIVAL,

    DEPARTURE\_AIRPORT,

    TO\_CHAR(SCHEDULED\_DEPARTURE,'HH12:MI:SS AM') ||'-'|| TO\_CHAR(SCHEDULED\_ARRIVAL,'HH12:MI:SS AM') AS TIMINGS,

    ROW\_NUMBER() OVER(PARTITION BY DEPARTURE\_AIRPORT ORDER BY TO\_CHAR(SCHEDULED\_DEPARTURE,'HH12:MI:SS AM') ASC) AS RNK

FROM FLIGHTS

)

SELECT

    FLIGHT\_ID,

    FLIGHT\_NO,

    SCHEDULED\_DEPARTURE,

    SCHEDULED\_ARRIVAL,

    DEPARTURE\_AIRPORT,

    TIMINGS

FROM T1

WHERE RNK = 1

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

Expected Output: Airport\_code.

**Answer:** SELECT

    AIRPORT\_CODE

FROM AIRPORTS

WHERE TIMEZONE = 'Europe/Moscow'

1. **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(SEAT\_NO) SEAT\_COUNT

FROM SEATS

GROUP BY 1,2

ORDER BY 1,2

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

Expected Output : Count of aircraft codes

**Answer:** SELECT

    COUNT(DISTINCT AIRCRAFT\_CODE)

FROM SEATS

WHERE FARE\_CONDITIONS = 'Business'

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

Expected Output : Airport\_name

**Answer:** SELECT

    A.AIRPORT\_NAME

FROM FLIGHTS F

JOIN AIRPORTS A

ON F.DEPARTURE\_AIRPORT = A.AIRPORT\_CODE

GROUP BY 1

ORDER BY COUNT(F.ACTUAL\_DEPARTURE) DESC

LIMIT 1

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

Expected Output : Airport\_name

**Answer:** SELECT

    A.AIRPORT\_NAME

FROM FLIGHTS F

JOIN AIRPORTS A

ON F.DEPARTURE\_AIRPORT = A.AIRPORT\_CODE

GROUP BY 1

ORDER BY COUNT(F.SCHEDULED\_DEPARTURE) ASC

LIMIT 1

1. **How many flights from ‘DME’ airport don’t have actual departure?**

Expected Output : Flight Count

**Answer:** SELECT

    COUNT(DISTINCT FLIGHT\_ID) FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT = 'DME' AND ACTUAL\_DEPARTURE IS NULL

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

Expected Output : Flight\_Number , aircraft\_code, ranges

**Answer:** SELECT

    F.FLIGHT\_NO,

    A.AIRCRAFT\_CODE,

    A.RANGE

FROM FLIGHTS

JOIN AIRCRAFTS

WHERE A.RANGE BETWEEN 3000 AND 6000

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

Expected Output : Flight\_count

**Answer:** SELECT

    COUNT(\*) FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT = 'URS' AND ARRIVAL\_AIRPORT = 'KUF'

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

Expected Output : Flight count

**Answer:** SELECT

    COUNT(\*) FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT = 'NOZ' OR DEPARTURE\_AIRPORT = 'KRR'

1. **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(\*) FLIGHT\_COUNT

FROM FLIGHTS

WHERE DEPARTURE\_AIRPORT IN ('KZN','DME','NBC','NJC','GDX','SGC','VKO','ROV')

1. **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 F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE

WHERE DEPARTURE\_AIRPORT = 'DME' AND (A.RANGE BETWEEN 3000 AND 6000)

1. **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 AIRCARFT\_MODEL

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE

WHERE A.MODEL LIKE '%Airbus%'

AND F.STATUS IN('Cancelled','Delayed')

1. **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 AIRCARFT\_MODEL

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE

WHERE A.MODEL LIKE '%Boeing %'

AND F.STATUS IN('Cancelled','Delayed')

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

Expected Output : Airport\_name

**Answer:** SELECT

A.AIRPORT\_NAME

FROM FLIGHTS F

JOIN AIRPORTS A

ON F.ARRIVAL\_AIRPORT = A.AIRPORT\_CODE

WHERE F.STATUS = 'Cancelled'

GROUP BY 1

ORDER BY COUNT(\*) DESC

LIMIT 1

1. ***Identify flight ids which are using “Airbus aircrafts”***

*Expected Output : Flight\_id,aircraft\_model*

**Answer:** SELECT

    F.FLIGHT\_ID,

    A.MODEL AIRPORT\_MODEL

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE

WHERE MODEL LIKE '%Airbus%'

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

*Expected Output: Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:** WITH T1 AS

(SELECT

    FLIGHT\_ID,

    FLIGHT\_NO,

    SCHEDULED\_DEPARTURE,

    DEPARTURE\_AIRPORT,

    ROW\_NUMBER() OVER(PARTITION BY DEPARTURE\_AIRPORT ORDER BY SCHEDULED\_DEPARTURE DESC) AS RNK

FROM FLIGHTS)

SELECT

    FLIGHT\_ID,

    FLIGHT\_NO,

    SCHEDULED\_DEPARTURE,

    DEPARTURE\_AIRPORT

FROM T1

WHERE RNK = 1

1. ***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,

    SUM(B.TOTAL\_AMOUNT) TOTAL\_REFUND

FROM TICKETS T

JOIN BOOKINGS B

ON T.BOOK\_REF = B.BOOK\_REF

JOIN TICKET\_FLIGHTS TF

ON T.TICKET\_NO = TF.TICKET\_NO

JOIN FLIGHTS F

ON TF.FLIGHT\_ID = F.FLIGHT\_ID

WHERE F.STATUS = 'Cancelled'

GROUP BY 1

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

*Expected Output : Flight\_id,flight\_number,schedule\_departure,departure\_airport*

**Answer:** WITH T1 AS

(

    SELECT

        FLIGHT\_ID,

        FLIGHT\_NO,

        SCHEDULED\_DEPARTURE,

        DEPARTURE\_AIRPORT,

        ROW\_NUMBER() OVER(PARTITION BY DEPARTURE\_AIRPORT ORDER BY SCHEDULED\_DEPARTURE ASC) RNK

    FROM FLIGHTS

    WHERE STATUS = 'Cancelled'

)

SELECT

    FLIGHT\_ID,

    FLIGHT\_NO,

    SCHEDULED\_DEPARTURE,

    DEPARTURE\_AIRPORT

FROM T1

WHERE RNK = 1

1. ***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'

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

*Expected Output : Flight\_no, range*

**Answer:** SELECT

    DISTINCT F.FLIGHT\_NO,

    A.RANGE

FROM FLIGHTS F

JOIN AIRCRAFTS A

ON F.AIRCRAFT\_CODE = A.AIRCRAFT\_CODE

WHERE A.RANGE IN

(

    SELECT MAX(RANGE) FROM AIRCRAFTS

)