**Attempt the following Questions**

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') AS 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 T.TICKET\_NO,BP.BOARDING\_NO,BP.SEAT\_NO AS SEAT\_NUMBER,T.PASSENGER\_ID,T.PASSENGER\_NAME**

**FROM TICKETS T JOIN BOARDING\_PASSES BP ON T.TICKET\_NO = BP.TICKET\_NO**

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

**Answer:** **SELECT SEAT\_NO, COUNT(\*) AS ALLOCATION\_COUNT**

**FROM BOARDING\_PASSES**

**GROUP BY 1**

**ORDER BY 2 ASC**

**LIMIT 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 MONTHLYPASSENGERPAYMENTS AS (**

**SELECT**

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

**T.PASSENGER\_ID,**

**T.PASSENGER\_NAME,**

**SUM(B.TOTAL\_AMOUNT) AS TOTAL\_AMOUNT**

**FROM**

**BOOKINGS B**

**JOIN**

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

**GROUP BY**

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

**T.PASSENGER\_ID,**

**T.PASSENGER\_NAME**

**),**

**RANKEDPASSENGERPAYMENTS AS (**

**SELECT**

**MONTH\_NAME,**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TOTAL\_AMOUNT,**

**ROW\_NUMBER() OVER (PARTITION BY MONTH\_NAME ORDER BY TOTAL\_AMOUNT DESC) AS RANK**

**FROM**

**MONTHLYPASSENGERPAYMENTS**

**)**

**SELECT**

**MONTH\_NAME,**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TOTAL\_AMOUNT**

**FROM**

**RANKEDPASSENGERPAYMENTS**

**WHERE**

**RANK = 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 MONTHLY\_TOTAL AS (**

**SELECT**

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

**T.PASSENGER\_ID,**

**T.PASSENGER\_NAME,**

**SUM(B.TOTAL\_AMOUNT) AS TOTAL\_AMOUNT**

**FROM**

**BOOKINGS B**

**JOIN**

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

**JOIN**

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

**GROUP BY**

**TO\_CHAR(B.BOOK\_DATE, 'Mon-YY'), T.PASSENGER\_ID, T.PASSENGER\_NAME**

**),**

**RANKED\_MONTHLY AS (**

**SELECT**

**MONTH\_NAME,**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TOTAL\_AMOUNT,**

**ROW\_NUMBER() OVER (PARTITION BY MONTH\_NAME ORDER BY TOTAL\_AMOUNT ASC) AS RN**

**FROM**

**MONTHLY\_TOTAL**

**)**

**SELECT**

**MONTH\_NAME,**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TOTAL\_AMOUNT**

**FROM**

**RANKED\_MONTHLY**

**WHERE**

**RN = 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:** **WITH FLIGHT\_COUNT AS (**

**SELECT**

**T.PASSENGER\_ID,**

**T.PASSENGER\_NAME,**

**T.TICKET\_NO AS TICKET\_NUMBER,**

**COUNT(DISTINCT B.FLIGHT\_ID) AS FLIGHT\_COUNT**

**FROM**

**TICKETS T**

**JOIN**

**BOARDING\_PASSES B ON T.TICKET\_NO = B.TICKET\_NO**

**GROUP BY**

**T.PASSENGER\_ID, T.PASSENGER\_NAME, T.TICKET\_NO**

**),**

**JOURNEY\_TYPE AS (**

**SELECT**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TICKET\_NUMBER,**

**FLIGHT\_COUNT,**

**CASE**

**WHEN FLIGHT\_COUNT = 1 THEN 'Non-Stop'**

**WHEN FLIGHT\_COUNT > 1 THEN 'Return'**

**END AS JOURNEY\_TYPE**

**FROM**

**FLIGHT\_COUNT**

**)**

**SELECT**

**PASSENGER\_ID,**

**PASSENGER\_NAME,**

**TICKET\_NUMBER,**

**FLIGHT\_COUNT**

**FROM**

**JOURNEY\_TYPE**

**WHERE**

**JOURNEY\_TYPE IN ('Non-Stop', 'Return')**

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

Expected Output: just one number is required.

**Answer:** **SELECT**

**COUNT(\*) AS TICKET\_COUNT**

**FROM**

**TICKETS T**

**LEFT JOIN**

**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)?**

Expected Output: Flight number, departure airport, arrival airport, aircraft code and durations.

**Answer:** **SELECT**

**FLIGHT\_NO AS FLIGHT\_NUMBER,**

**DEPARTURE\_AIRPORT,**

**ARRIVAL\_AIRPORT,**

**AIRCRAFT\_CODE,**

**SCHEDULED\_ARRIVAL - SCHEDULED\_DEPARTURE AS DURATIONS**

**FROM**

**FLIGHTS**

**ORDER BY**

**DURATIONS 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 AS FLIGHT\_NUMBER,**

**SCHEDULED\_DEPARTURE,**

**SCHEDULED\_ARRIVAL,**

**TO\_CHAR(SCHEDULED\_DEPARTURE, 'HH24:MI') AS TIMINGS**

**FROM**

**FLIGHTS**

**WHERE**

**EXTRACT(HOUR FROM SCHEDULED\_DEPARTURE) BETWEEN 6 AND 10**

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 MORNING\_FLIGHTS AS (**

**SELECT**

**FLIGHT\_ID,**

**FLIGHT\_NO AS FLIGHT\_NUMBER,**

**SCHEDULED\_DEPARTURE,**

**SCHEDULED\_ARRIVAL,**

**DEPARTURE\_AIRPORT,**

**TO\_CHAR(SCHEDULED\_DEPARTURE, 'HH24:MI') AS TIMINGS**

**FROM**

**FLIGHTS**

**WHERE**

**EXTRACT(HOUR FROM SCHEDULED\_DEPARTURE) BETWEEN 6 AND 10**

**),**

**EARLIEST\_FLIGHTS AS (**

**SELECT**

**DEPARTURE\_AIRPORT,**

**MIN(SCHEDULED\_DEPARTURE) AS EARLIEST\_DEPARTURE**

**FROM**

**MORNING\_FLIGHTS**

**GROUP BY**

**DEPARTURE\_AIRPORT**

**)**

**SELECT**

**MF.FLIGHT\_ID,**

**MF.FLIGHT\_NUMBER,**

**MF.SCHEDULED\_DEPARTURE,**

**MF.SCHEDULED\_ARRIVAL,**

**MF.DEPARTURE\_AIRPORT,**

**MF.TIMINGS**

**FROM**

**MORNING\_FLIGHTS MF**

**JOIN**

**EARLIEST\_FLIGHTS EF**

**ON**

**MF.DEPARTURE\_AIRPORT = EF.DEPARTURE\_AIRPORT**

**AND MF.SCHEDULED\_DEPARTURE = EF.EARLIEST\_DEPARTURE**

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) AS SEAT\_COUNT**

**FROM**

**SEATS**

**GROUP BY**

**AIRCRAFT\_CODE,**

**FARE\_CONDITIONS**

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

Expected Output : Count of aircraft codes

**Answer:** **SELECT**

**COUNT(DISTINCT AIRCRAFT\_CODE) AS COUNT\_OF\_AIRCRAFT\_CODES**

**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**

**AIRPORTS A**

**JOIN**

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

**GROUP BY**

**A.AIRPORT\_NAME**

**ORDER BY**

**COUNT(F.FLIGHT\_ID) 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**

**AIRPORTS A**

**JOIN**

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

**GROUP BY**

**A.AIRPORT\_NAME**

**ORDER BY**

**COUNT(F.FLIGHT\_ID) ASC**

**LIMIT 1**

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

Expected Output : Flight Count

**Answer:** **SELECT**

**COUNT(\*) AS 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 AS FLIGHT\_NUMBER,**

**F.AIRCRAFT\_CODE,**

**A.RANGE AS RANGES**

**FROM**

**FLIGHTS F**

**JOIN**

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

**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(\*) AS FLIGHT\_COUNT**

**FROM**

**FLIGHTS**

**WHERE**

**(DEPARTURE\_AIRPORT = 'URS' AND ARRIVAL\_AIRPORT = 'KUF')**

**OR (DEPARTURE\_AIRPORT = 'KUF' AND ARRIVAL\_AIRPORT = 'URS')**

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

Expected Output : Flight count

**Answer:** **SELECT**

**COUNT(\*) AS FLIGHT\_COUNT**

**FROM**

**FLIGHTS**

**WHERE**

**DEPARTURE\_AIRPORT IN ('NOZ', '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(\*) AS COUNT\_OF\_FLIGHTS**

**FROM**

**FLIGHTS**

**WHERE**

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

**GROUP BY**

**DEPARTURE\_AIRPORT**

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**

**F.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 AS AIRCRAFT\_MODEL**

**FROM**

**FLIGHTS F**

**JOIN**

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

**WHERE**

**A.MODEL LIKE '%Airbus%'**

**AND (F.STATUS = 'Cancelled' OR F.STATUS = '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 AS AIRCRAFT\_MODEL**

**FROM**

**FLIGHTS F**

**JOIN**

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

**WHERE**

**A.MODEL LIKE '%Boeing%'**

**AND (F.STATUS = 'Cancelled' OR F.STATUS = 'Delayed')**

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

Expected Output : Airport\_name

**Answer:** **SELECT**

**A.AIRPORT\_NAME**

**FROM**

**AIRPORTS A**

**JOIN**

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

**WHERE**

**F.STATUS = 'Cancelled'**

**GROUP BY**

**A.AIRPORT\_NAME**

**ORDER BY**

**COUNT(F.FLIGHT\_ID) 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 AS AIRCRAFT\_MODEL**

**FROM**

**FLIGHTS F**

**JOIN**

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

**WHERE**

**A.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 Last\_Flights AS (**

**SELECT**

**DEPARTURE\_AIRPORT,**

**SCHEDULED\_DEPARTURE,**

**FLIGHT\_ID,**

**FLIGHT\_NO,**

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

**FROM**

**FLIGHTS**

**)**

**SELECT**

**FLIGHT\_ID,**

**FLIGHT\_NO AS FLIGHT\_NUMBER,**

**SCHEDULED\_DEPARTURE,**

**DEPARTURE\_AIRPORT**

**FROM**

**Last\_Flights**

**WHERE**

**rn = 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(TF.AMOUNT) AS 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**

**T.PASSENGER\_NAME**

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

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

**Answer:** **WITH Canceled\_Flights AS (**

**SELECT**

**F.FLIGHT\_ID,**

**F.FLIGHT\_NO,**

**F.SCHEDULED\_DEPARTURE,**

**F.DEPARTURE\_AIRPORT,**

**ROW\_NUMBER() OVER (**

**PARTITION BY F.DEPARTURE\_AIRPORT, DATE(F.SCHEDULED\_DEPARTURE)**

**ORDER BY F.SCHEDULED\_DEPARTURE ASC**

**) AS rn**

**FROM**

**FLIGHTS F**

**WHERE**

**F.STATUS = 'Cancelled'**

**)**

**SELECT**

**FLIGHT\_ID,**

**FLIGHT\_NO AS FLIGHT\_NUMBER,**

**SCHEDULED\_DEPARTURE,**

**DEPARTURE\_AIRPORT**

**FROM**

**Canceled\_Flights**

**WHERE**

**rn = 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:** **WITH Max\_Range AS (**

**SELECT**

**MAX(A.RANGE) AS Highest\_Range**

**FROM**

**AIRCRAFTS A**

**)**

**SELECT**

**F.FLIGHT\_NO,**

**A.RANGE**

**FROM**

**FLIGHTS F**

**JOIN**

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

**JOIN**

**Max\_Range MR ON A.RANGE = MR.Highest\_Range**