**Fawry SQL Test**

These are sample tables that you will need for answering all questions except the final question. Please build your queries to fit these sample and any other sample from the whole data.

**Monthly\_Sales\_Table** **Merchant\_Info\_Table**

**Table

Description automatically generatedTable

Description automatically generated**

**Q1)** Get the last Month\_Amount value for each Merchant.

Show Merchant\_ID, Month\_Code and Month\_Amount. **Expected Output**

Table

Description automatically generated

select Merchant\_ID,Month\_Code,Month\_Amount from (

select

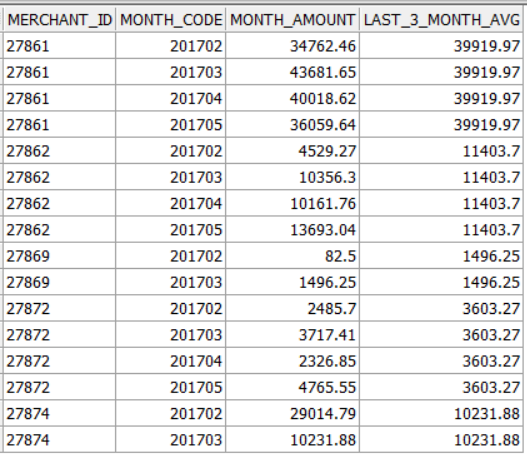
row\_number() over(partition by Merchant\_ID order by Month\_Code DESC) as rnk,Merchant\_ID,Month\_Code,Month\_Amount

from Monthly\_Sales\_Table)AA

WHERE AA.rnk=1;

**Q2)** Get the last 3 months avg (201705,201704,201703) for each merchant while displaying all months’ values. For FAWRYRTL Channel only.

Show Merchant\_ID, Month\_Code, Month\_Amount and Last\_3\_Month\_AVG. **Expected Output**



**AS Expected Ouptut:**

SELECT AA.Merchant\_ID,AA.Month\_Code,AA.Month\_Amount,Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table AA

LEFT JOIN (

SELECT Merchant\_ID, ROUND(AVG(Month\_Amount),2) AS Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table

WHERE Month\_Code IN (201705, 201704, 201703)

GROUP BY Merchant\_ID)BB ON AA.Merchant\_ID=BB.Merchant\_ID;

**AS mention in question:**

SELECT AA.Merchant\_ID,AA.Month\_Code,AA.Month\_Amount,Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table AA

LEFT JOIN (

SELECT Merchant\_ID, ROUND(AVG(Month\_Amount),2) AS Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table

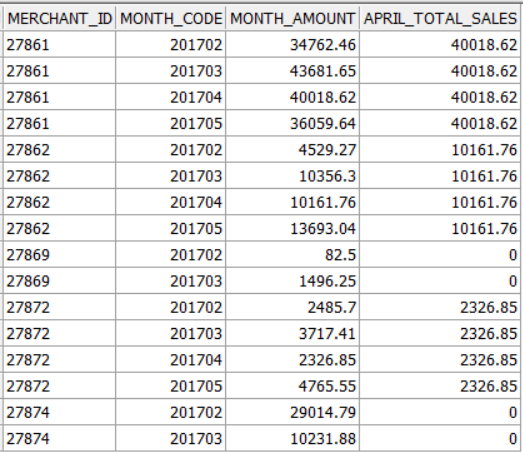
WHERE Month\_Code IN (201705, 201704, 201703)

GROUP BY Merchant\_ID)BB ON AA.Merchant\_ID=BB.Merchant\_ID

WHERE AA.Merchant\_ID IN (SELECT Merchant\_ID FROM Merchant\_Info\_Table WHERE Channel='FAWRYRTL');

**Q3)** Get the Total Sales of 201704 for each merchant while displaying all months’ values and merchants that don’t have sales in this month 201704 substitute by 0.

Show Merchant\_ID, Month\_Code, Month\_Amount and April\_Total\_Sales. **Expected Output**



SELECT AA.Merchant\_ID,AA.Month\_Code,AA.Month\_Amount,

COALESCE(BB.Last\_3\_Month\_AVG,0) as Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table AA

LEFT JOIN (

SELECT Merchant\_ID, ROUND(AVG(Month\_Amount),2) AS Last\_3\_Month\_AVG

FROM Monthly\_Sales\_Table

WHERE Month\_Code = 201704

GROUP BY Merchant\_ID)BB ON AA.Merchant\_ID=BB.Merchant\_ID;

**Q4)** Get the last 3 values of column Month\_Amount of each merchant with 15 working days at least

Show Merchant\_ID, Month\_Code and Month\_Amount. **Expected Output**

Table

Description automatically generated

select Merchant\_ID,Month\_Code,Month\_Amount,Working\_Days from (

select

row\_number() over(partition by Merchant\_ID order by Month\_Code desc ) as rnk,Merchant\_ID,Month\_Code,Month\_Amount,Working\_Days

from Monthly\_Sales\_Table

where Working\_Days>=15

)AA

WHERE AA.rnk<=3;

**Merchant\_Action\_Table**

Table

Description automatically generated

**Q5)** Merchant is in red zone When his balance is below red balance. Else he is in green zone.

Get merchant zone start date and end date across the whole month.

Show Merchant\_ID, Zone, Start\_date and End\_Date. **Expected Output**

Table

Description automatically generated

**The expected ouput contains data not in the sample provide of table so I apply query as following trying to get the zone start and end date by using Lag function to get the zones and lead o the end date**

SELECT

FF.Merchant\_ID,

FF.START\_DATE,

FF.END\_DATE AS END\_DATE,

FF.ZONE

FROM

( SELECT

BB.Merchant\_ID,

BB.ACTION\_DATE AS START\_DATE,

LEAD(BB.ACTION\_DATE) OVER (ORDER BY BB.ACTION\_DATE) AS END\_DATE,

ZONE

FROM

( SELECT

AA.Merchant\_ID,

AA.ACTION\_DATE,

AA.ZONE,

LAG(AA.ZONE) OVER (ORDER BY AA.ACTION\_DATE) AS PREV\_ZONE

FROM

(SELECT

Merchant\_ID,

ACTION\_DATE,

BALANCE\_AFTER,

RED\_BALANCE,

CASE

WHEN BALANCE\_AFTER < RED\_BALANCE THEN 'RED'

ELSE 'GREEN'

END AS ZONE

FROM

Merchant\_Action\_Table ) AA)BB

WHERE

ZONE != PREV\_ZONE OR PREV\_ZONE IS NULL)FF

ORDER BY

FF.START\_DATE;