**SQL FOR LOAN DATA ANALYSIS**

Average\_Interest\_Rate

SELECT ROUND (AVG (int\_rate),2) \* 100 AS Average\_Interest\_Rate FROM bank\_loan\_data

MTD\_avg\_int\_rate

SELECT ROUND (AVG (int\_rate),4) \* 100 as MTD\_int\_rate

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

PMTD\_avg\_int\_rate

SELECT ROUND (AVG (int\_rate),4) \* 100 as MTD\_int\_rate

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021

Average\_Debt\_to\_income\_ratio\_Ratio\_(DTI)

SELECT ROUND (AVG (dti),2) \* 100 AS Average\_Debt\_to\_income\_ratio\_Ratio FROM bank\_loan\_data

MTD\_avg\_dti

SELECT ROUND (AVG (dti),4) \* 100 as MTD\_int\_rate

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

PMTD\_avg\_dti

SELECT ROUND (AVG (dti),4) \* 100 as MTD\_int\_rate

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021

MOM Percentage Change

WITH MTD\_Total\_Loan\_Applications as

(

SELECT COUNT(id) as MTD\_Total

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

)

,

PMTD\_Total\_Loan\_Applications AS

(

SELECT COUNT(id) as PMTD\_Total

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021

)

SELECT MTD\_Total,

PMTD\_Total,

(MTD\_Total - PMTD\_Total) \* 100.0 / PMTD\_Total AS MoM\_Percentage\_Change

FROM MTD\_Total\_Loan\_Applications

CROSS JOIN PMTD\_Total\_Loan\_Applications

SELECT count(loan\_status) as bad\_loans

from bank\_loan\_data

where loan\_status = 'Charged Off'

WITH total\_good\_loans as

(

SELECT count(loan\_status) as good\_loans

from bank\_loan\_data

where loan\_status = 'Current'

OR loan\_status = 'Fully Paid'

),

total\_applications as

(

SELECT COUNT(id) as total\_app

from bank\_loan\_data

)

SELECT good\_loans,

total\_app,

good\_loans \* 100 / total\_app as good\_loan\_percentage

from total\_good\_loans

cross join total\_applications

SELECT count(loan\_status) as Good\_Loans\_Applications

from bank\_loan\_data

where loan\_status = 'Current'

OR loan\_status = 'Fully Paid'

SELECT

(SUM(CASE WHEN loan\_status = 'Charged Off' THEN 1 ELSE 0 END)\*100)/COUNT(id) AS Bad\_Loan\_Percentage

FROM bank\_loan\_data

select

SUM(CASE WHEN loan\_status = 'Current' OR loan\_status = 'Fully Paid' THEN loan\_amount ELSE 0 END) AS Good\_Loan\_Funded\_Amount

from bank\_loan\_data

select \* from bank\_loan\_data

--Good Loan Total Recieved Amount

SELECT

SUM(CASE WHEN loan\_status = 'Current' OR loan\_status = 'Fully Paid' THEN total\_payment ELSE 0 END) AS Good\_Loan\_Funded\_Amount

from bank\_loan\_data

--Bad Loan Application percentage

SELECT

ROUND(

(SUM(CASE WHEN loan\_status = 'Charged Off' THEN 1 ELSE 0 END) \* 100.0) / COUNT(id),

2

) AS Bad\_Loan\_Application\_Percentage

from bank\_loan\_data

--Bad Loan Applications

SELECT count(id) as Bad\_Loan\_Applications

from bank\_loan\_data

where loan\_status = 'Charged Off'

-- Bad Loan Funded Amount

SELECT SUM(loan\_amount) as Bad\_Loan\_Funded\_Amount

from bank\_loan\_data

where loan\_status = 'Charged Off'

-- Bad Loan Amount Received

SELECT SUM(total\_payment) as Bad\_Loan\_Funded\_Amount

from bank\_loan\_data

where loan\_status = 'Charged Off'

SELECT loan\_status,

COUNT(id) as total\_applications,

SUM(total\_payment) as Total\_Amount\_Received,

SUM(loan\_amount) as Total\_Funded\_Amount,

AVG(int\_rate \* 100) as Interst\_Rate,

AVG(dti \* 100) as DTI

from bank\_loan\_data

group by loan\_status

SELECT

loan\_status,

SUM(total\_payment) as MTD\_Total\_Amount\_Recieved,

SUM(loan\_amount) as MTD\_Total\_Funded\_Amount

from bank\_loan\_data

where month(issue\_date) = 12

group by loan\_status

-- MONTHLY TREND BY ISSUE DATE

SELECT

MONTH(issue\_date) as month\_number,

DATENAME(MONTH,issue\_date) as Month\_Name,

COUNT(id) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as total\_Funded\_applications,

SUM(total\_payment) as total\_received\_amount

from bank\_loan\_data

GROUP BY DATENAME(MONTH,issue\_date), MONTH(issue\_date)

ORDER BY MONTH(issue\_date), DATENAME(MONTH,issue\_date)

--Regional State Analysis

SELECT DISTINCT address\_state as Loan\_State,

COUNT(id) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as Total\_Funded\_Applications,

SUM(total\_payment) as Total\_Received\_Amount

from bank\_loan\_data

GROUP BY address\_state

ORDER BY COUNT(id) DESC

-- Loan Term

SELECT term,

count(term) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as Total\_Funded\_Applications,

SUM(total\_payment) as Total\_Received\_Amount

from bank\_loan\_data

group by term

-- Employee Length

SELECT emp\_length,

count(term) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as Total\_Funded\_Applications,

SUM(total\_payment) as Total\_Received\_Amount

from bank\_loan\_data

group by emp\_length

order by emp\_length asc

-- Loan Purpose

SELECT purpose,

count(term) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as Total\_Funded\_Applications,

SUM(total\_payment) as Total\_Received\_Amount

from bank\_loan\_data

group by purpose

order by count(term) desc

-- Home Ownership

SELECT home\_ownership,

count(term) as Number\_Of\_Loan\_Applications,

SUM(loan\_amount) as Total\_Funded\_Applications,

SUM(total\_payment) as Total\_Received\_Amount

from bank\_loan\_data

group by home\_ownership

order by count(term) desc

Total\_Loan\_Applications

SELECT COUNT(id) as Total\_Loan\_Applications

FROM bank\_loan\_data



NOTE To make dates for MTD for dynamic reports rather than hard coded use MAX (Month) Max (Year) or get the current date and time

MTD\_ Total\_Loan\_Applications

SELECT COUNT (id) as MTD\_Total\_Loan\_Applications

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021



PMTD\_ Total\_Loan\_Applications

SELECT COUNT(id) as MTD\_Total\_Loan\_Applications

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021



--Number of Loan Applications

SELECT COUNT(id) as Total\_Loan\_Applications

FROM bank\_loan\_data

MTD\_Total\_Loan\_Applications

SELECT COUNT(id) as MTD\_Total\_Loan\_Applications

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

PMTD\_Total\_Loan\_Applications

SELECT COUNT(id) as MTD\_Total\_Loan\_Applications

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021

select \* from bank\_loan\_data

--Total\_Funded\_Amount

SELECT SUM (loan\_amount) AS Total\_Funded\_Amount FROM bank\_loan\_data

MTD\_Total\_Funded\_Amount

SELECT SUM (loan\_amount) as MTD\_Total\_Funded\_Amount

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

PMTD\_Total\_Funded\_Amount

SELECT SUM(loan\_amount) as PMTD\_Total\_Funded\_Amount

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021

--Total\_amount\_Received

SELECT SUM (total\_payment) AS Total\_amount\_Received FROM bank\_loan\_data

MTD\_Total\_amount\_Received

SELECT SUM(total\_payment) as MTD\_Total\_amount\_Received

from bank\_loan\_data

where month(issue\_date) = 12

and year(issue\_date) = 2021

PMTD\_Total\_amount\_Received

SELECT SUM (total\_payment) as PMTD\_Total\_amount\_Received

from bank\_loan\_data

where month(issue\_date) = 11

and year(issue\_date) = 2021