**Problem Statement**

**Key Performance Indicators (KPIs) Requirements:**

**Total Loan Applications: We need to calculate the total number of loan applications received during a specified period. Additionally, it is essential to monitor the Month-to-Date (MTD) Loan Applications and track changes Month-over-Month (MoM).**

1. **Total Loan Applications:**

SELECT count (id) as Total\_Loan\_Application FROM Bank\_loan\_Data



1. **MTD Loan Application:**

SELECT count (id) as MTD\_Total\_Application FROM Bank\_loan\_Data

WHERE MONTH(issue\_date ) = 12 AND YEAR(issue\_date)=2021



1. **PMTD Loan Application:**

SELECT count (id) as PMTD\_Total\_Application FROM Bank\_loan\_Data

WHERE MONTH(issue\_date ) = 11 AND YEAR(issue\_date)=2021



**Total Funded Amount: Understanding the total amount of funds disbursed as loans is crucial. We also want to keep an eye on the MTD Total Funded Amount and analyse the Month-over-Month (MoM) changes in this metric.**

1. **Total Funded Amount:**

SELECT SUM(loan\_amount) Total\_Funded\_Amount FROM Bank\_loan\_Data



1. **MTD Total Funded Amount:**

SELECT SUM(loan\_amount) MTD\_Total\_Funded\_Amount FROM Bank\_loan\_Data WHERE MONTH(issue\_date ) = 12 AND YEAR(issue\_date)=2021



1. **Previous MTD Funded Amount:**

SELECT SUM(loan\_amount) PMTD\_Total\_Funded\_Amount FROM Bank\_loan\_Data WHERE MONTH(issue\_date ) = 11 AND YEAR(issue\_date)=2021



**Total Amount Received: Tracking the total amount received from borrowers is essential for assessing the bank's cash flow and loan repayment. We should analyse the Month-to-Date (MTD) Total Amount Received and observe the Month-over-Month (MoM) changes.**

1. **Total Amount Received:**

SELECT SUM(total\_payment) AS Total\_Amount\_Received from Bank\_loan\_Data



1. **MTD Total Received Amount:**

SELECT SUM(total\_payment) AS MTD\_Amount\_Received from Bank\_loan\_Data

WHERE MONTH(issue\_date)=12 AND YEAR(issue\_date)=2021



1. **PMTD Total Received Amount**:

SELECT SUM(total\_payment) AS PMTD\_Amount\_Received from Bank\_loan\_Data

WHERE MONTH(issue\_date)=11 AND YEAR(issue\_date)=2021



**Average Interest Rate: Calculating the average interest rate across all loans, MTD, and monitoring the Month-over-Month (MoM) variations in interest rates will provide insights into our lending portfolio's overall cost.**

**1.Average Interest Rate:**

SELECT ROUND(AVG(int\_rate),4)\*100 AS Avg\_Interst\_Rate from Bank\_loan\_Data



1. **MTD Average Interest Rate:**

SELECT ROUND(AVG(int\_rate),4)\*100 AS MTD\_Avg\_Interst\_Rate from Bank\_loan\_Data

WHERE MONTH(issue\_date)=12 AND YEAR(issue\_date)=2021



1. **PMTD Average Interest Rate:**

SELECT ROUND(AVG(int\_rate),4)\*100 AS MTD\_Avg\_Interst\_Rate from Bank\_loan\_Data

WHERE MONTH(issue\_date)=11 AND YEAR(issue\_date)=2021



**Average Debt-to-Income Ratio (DTI): Evaluating the average DTI for our borrowers helps us gauge their financial health. We need to compute the average DTI for all loans, MTD, and track Month-over-Month (MoM) fluctuations.**

1. **Average Debt-to-Income Ratio (DTI):**

SELECT ROUND(AVG(dti),4)\*100 AS Avg\_DTI\_Ratio from Bank\_loan\_Data



1. **MTD Average Interest Rate:**

SELECT ROUND(AVG(dti),4)\*100 AS MTD\_Avg\_DTI\_Ratio from Bank\_loan\_Data

WHERE MONTH(issue\_date)=12 AND YEAR(issue\_date)=2021



**3.PMTD Average Interest Rate:**

SELECT ROUND(AVG(dti),4)\*100 AS PMTD\_Avg\_DTI\_Ratio from Bank\_loan\_Data

WHERE MONTH(issue\_date)=11 AND YEAR(issue\_date)=2021



**KPI: Good Loan VS Bad Loan**

**Good Loan:**

1. **Good Loan Application Percentage.**

SELECT

COUNT(CASE WHEN LOAN\_STATUS >= 'FULLY PAID' OR LOAN\_STATUS='CURRENT' THEN ID END)\*100 /

COUNT(ID) AS Good\_Loan\_Percentage

FROM Bank\_loan\_Data



1. **Good Loan Applications.**

SELECT COUNT(ID) AS Good\_Loan\_Applications FROM Bank\_loan\_Data

WHERE LOAN\_STATUS='FULLY PAID' OR LOAN\_STATUS= 'CURRENT'



**3.Good Loan Funded Amount**

SELECT SUM(Loan\_amount) as Good\_Loan\_Funded\_Amount from Bank\_loan\_Data

WHERE LOAN\_STATUS='FULLY PAID' OR LOAN\_STATUS= 'CURRENT'



**4.Good Loan Total Received Amount**

SELECT SUM(total\_payment) as Good\_Loan\_Total\_Received\_Amount from Bank\_loan\_Data WHERE LOAN\_STATUS='FULLY PAID' OR LOAN\_STATUS= 'CURRENT'



**Bad Loan:**

**1.Bad Loan Application Percentage**

SELECT

(COUNT(CASE WHEN LOAN\_STATUS = 'CHARGED OFF' THEN ID END)\*100.0) /

COUNT(ID) AS Bad\_Loan\_Percentage

FROM Bank\_loan\_Data



**2.Bad Loan Applications**

SELECT COUNT(ID) AS Total\_Bad\_Loan\_Application FROM Bank\_loan\_Data

WHERE LOAN\_STATUS = 'CHARGED OFF'



**3.Bad Loan Funded Amount**

SELECT sum(loan\_amount) AS Bad\_Loan\_Funded\_Amount FROM Bank\_loan\_Data

WHERE LOAN\_STATUS = 'CHARGED OFF'



**4.Bad Loan Total Received Amount**

SELECT sum(total\_payment) AS Bad\_Loan\_Total\_Received\_Amount FROM Bank\_loan\_Data

WHERE LOAN\_STATUS = 'CHARGED OFF'



**Loan Status Grid View:**

SELECT LOAN\_STATUS,

COUNT(ID) as Loan\_Account,

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

SUM(TOTAL\_PAYMENT) as Total\_Payment\_Received,

AVG(int\_rate\*100),

AVG(dti)

FROM Bank\_loan\_Data

group by

LOAN\_STATUS



**Month-to-Date (MTD) Funded Amount,' 'MTD Amount Received,'**

SELECT loan\_status,

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

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

FROM Bank\_loan\_Data

WHERE MONTH(issue\_date)=12

group by

loan\_status



**Overview:**

1. **Monthly Trends by Issue Date for 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received:**

SELECT

MONTH(ISSUE\_DATE) as Month\_Number,

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

count(id) as Total\_Application,

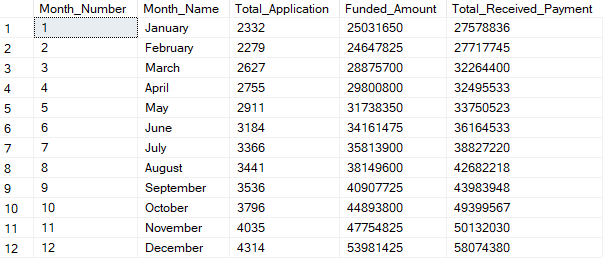
sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by MONTH(ISSUE\_DATE), DATENAME(MONTH, issue\_date)

ORDER BY MONTH(ISSUE\_DATE)



1. **Regional Analysis by State for 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'**

SELECT

TOP 10 address\_state,

count(id) as Total\_Application,

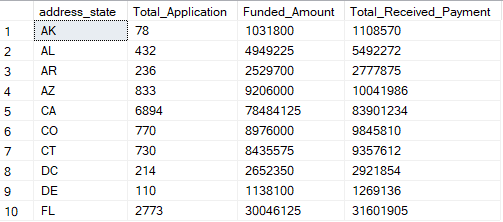
sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by address\_state

ORDER BY address\_state



1. **Loan Term Analysis for 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'**

SELECT

term,

count(id) as Total\_Application,

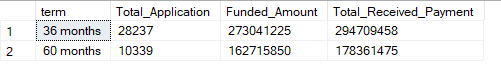
sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by term

ORDER BY term



1. **Employee Length Analysis 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'**

SELECT

emp\_length,

count(id) as Total\_Application,

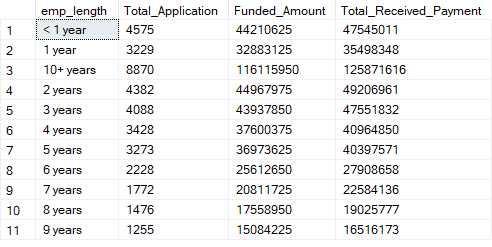
sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by emp\_length

ORDER BY emp\_length



1. **Loan Purpose Breakdown 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'**

SELECT

purpose,

count(id) as Total\_Application,

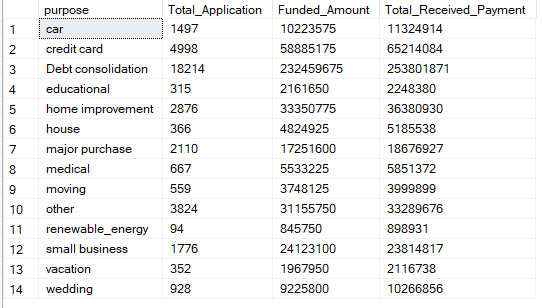
sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by purpose

ORDER BY purpose



1. **Home Ownership Analysis 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'**

SELECT

home\_ownership,

count(id) as Total\_Application,

sum(loan\_amount) as Funded\_Amount,

SUM(TOTAL\_PAYMENT) as Total\_Received\_Payment

FROM Bank\_loan\_Data

group by home\_ownership

ORDER BY home\_ownership

