**PROBLEM STATEMENT**

**DASHBOARD 1: SUMMARY**

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

1. **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).**
2. **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.**
3. **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.**
4. **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.**
5. **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.**

**Good Loan v Bad Loan KPI’s**

**Good Loan:**

1. **Good Loan Application Percentage**
2. **Good Loan Applications**
3. **Good Loan Funded Amount**
4. **Good Loan Total Received Amount**

**Bad Loan**

1. **Bad Loan Application Percentage**
2. **Bad Loan Applications**
3. **Bad Loan Funded Amount**
4. **Bad Loan Total Received Amount**

**Loan Status Grid View**

**To gain a comprehensive overview of our lending operations and monitor the performance of loans, we aim to create a grid view report categorized by 'Loan Status.’ By providing insights into metrics such as 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received,' 'Month-to-Date (MTD) Funded Amount,' 'MTD Amount Received,' 'Average Interest Rate,' and 'Average Debt-to-Income Ratio (DTI),' this grid view will empower us to make data-driven decisions and assess the health of our loan portfolio.**

**PROBLEM STATEMENT**

**DASHBOARD 2: OVERVIEW**

**CHARTS**

1. **Monthly Trends by Issue Date (Line Chart):  To identify seasonality and long-term trends in lending activities**
2. **Regional Analysis by State (Filled Map): To identify regions with significant lending activity and assess regional disparities**
3. **Loan Term Analysis (Donut Chart): To allow the client to understand the distribution of loans across various term lengths.**
4. **Employee Length Analysis (Bar Chart): How lending metrics are distributed among borrowers with different employment lengths, helping us assess the impact of employment history on loan applications.**
5. **Loan Purpose Breakdown (Bar Chart): Will provide a visual breakdown of loan metrics based on the stated purposes of loans, aiding in the understanding of the primary reasons borrowers seek financing.**
6. **Home Ownership Analysis (Tree Map): For a hierarchical view of how home ownership impacts loan applications and disbursements.**

***Metrics to be shown: 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'***

**PROBLEM STATEMENT**

**DASHBOARD 3: DETAILS**

**GRID**

**Need for a comprehensive 'Details Dashboard' that provides a consolidated view of all the essential information within our loan data. This Details Dashboard aims to offer a holistic snapshot of key loan-related metrics and data points, enabling users to access critical information efficiently.**

***Objective:***

***The primary objective of the Details Dashboard is to provide a comprehensive and user-friendly interface for accessing vital loan data. It will serve as a one-stop solution for users seeking detailed insights into our loan portfolio, borrower profiles, and loan performance.***

**FUNCTIONALITIES YOU WILL LEARN**

**SQL – MS SQL SERVER**

* **Creating Database**
* **Creating Table**
* **Select**
* **Datename**
* **Datepart**
* **Cast**
* **Decimal**
* **Month**
* **Hour**
* **Quarter**
* **Day**
* **Group by**
* **Order by**
* **Decimal**
* **Limit**
* **Count**
* **Distinct**
* **CTE**
* **Partition**

**POWER BI**

* **Connecting to SQL Server**
* **Data Cleaning**
* **Data Modelling**
* **Data Processing**
* **Power Query**
* **Date Tables**
* **Time Intelligence Func**
* **DAX**
* **Date Function**
* **Text Function**
* **Filter Function**
* **Calculate**
* **SUM/ SUMX**
* **Creating KPI’s**
* **New Card Visual**
* **Creating Charts**
* **Formatting visuals**
* **Creating Functions**
* **Navigations**