Bank Loan Project Problem Statement

**Summary: Key Performance Indicators (KPI) Requirements:**

1. **Total loan applications**: we need to calculate the total number of loan applications received during a specific period. Additionally, monitor month-to-date (MTD) loan applications and track changes month-over-month (MoM).
2. **Total funded amount**: understand the total amount of funds disbursed as loans. Monitor the MTD total funded amount and analyze the MoM changes.
3. **Total amount received**: track the total amount received from the borrowers (assess the bank’s cash flow and loan repayment). Analyze month-to-date (MTD) total amount received and observe the MoM changes.
4. **Average interest rate**: calculate average interest rates cross all loans, MTD, and MoM variations in interest rates (provides insights into overall cost of lending portfolio).
5. **Average debt-to-income ratio (DTI)**: evaluate the average DTI for borrowers to gauge their financial health. Calculate average DTI for all loans, MTD, and track MoM fluctuations.

**Good Loan vs. Bad Loan KPI’s**

**Good loan** (current and fully paid)

1. Application percentage
2. Applications
3. Funded amount
4. Total received amount

**Bad loan** (charged off)

1. Application percentage
2. Applications
3. Funded amount
4. Total received amount

**Loan status grid view**

* Function: gain a comprehensive overview of lending operations and monitor the performance of loans by creating a grid view repot categorized by ‘loan status’
* Metrics such as total loan applications, total funded amount, total amount received, MTD funded amount, MTD amount received, average interest rate, and average DTI ratio provide insight into the health of the loan portfolio and empowers us to make data-driven decisions

**Dashboard 2: Charts**

1. **Monthly trends by issue date (line chart)**: identify seasonality and long-term trends in lending activities.
2. **Regional analysis by date (filled map)**: identify regions with significant lending activity and assess regional disparities.
3. **Loan term analysis (donut chart)**: allows the client to understand the distribution to loans across various term lengths.
4. **Employee length analysis (bar chart)**: how lending metrics are distributed among borrowers with different employee lengths; helps us assess the impact of employment history on loan applications.
5. **Loan purpose breakdown (bar chart)**: visual breaking od loan metrics based on the stated purposes of loan acquisition; helps us understand the primary reason borrowers seek financing
6. **Home ownership analysis (tree map)**: hierarchical view of how home ownership impacts loan applications and disbursements.

Metrics to be shown: total loan applications, total funded amount, total amount received

**Dashboard 3: Details**

**Grid:** a comprehensive ‘details dashboard’ provides a consolidated view of all the essential information within our loan data. Aims to provide a holistic snapshot of loan-related metrics and data points, enabling users to assess critical information efficiently

**Objective**: to provide a comprehensive and user-friendly interface for accessing loan data. Serves as a one-stop shop for users seeing detailed insights into loan portfolio, borrower profiles, and loan performance.