PERSONAL PROJECT BANK ANALYST

APRIL 1 - 2024

In order to monitor and assess our bank's lending activities and performance, we need to create a comprehensive Bank Loan Report. This report aims to provide insights into key loan-related metrics and their changes over time. The report will help us make data-driven decisions, track our loan portfolio's health, and identify trends that can inform our lending strategies.

Problem Statements

BANK LOAN REPORT

VISUALIZING LOAN TRENDS AND ANALYSIS

HOLISTIC INSIGHTS INTO LOAN PORTFOLIO

id	address_	applicati	emp_len	emp_titl	grade	home_ov	issue_da	last_cred	last_payn	loan_sta
1077430	GA	INDIVIDUAl	< 1 year	Ryder	C	RENT	11/2/2021	13-09-2021	13-04-2021	Charged Of
1072053	CA	INDIVIDUAl	9 years	MKC Accou	E	RENT	1/1/2021	14-12-2021	15-01-2021	Fully Paid
1069243	CA	INDIVIDUAl	4 years	Chemat Tec	C	RENT	5/1/2021	12/12/2021	9/1/2021	Charged Of
1041756	TX	INDIVIDUAl	< 1 year	barnes dist	B	MORTGAGE	25-02-2021	12/12/2021	12/3/2021	Fully Paid
1068350	IL	INDIVIDUAl	10+ years	J&J Steel In	A	MORTGAGE	1/1/2021	14-12-2021	15-01-2021	Fully Paid
1062608	CA	INDIVIDUAl	3 years	Studio 94 C	C	RENT	17-07-2021	16-03-2021	12/8/2021	Fully Paid
1067441	TX	INDIVIDUAl	10+ years	American A	C	MORTGAGE	19-11-2021	14-06-2021	13-12-2021	Fully Paid
1066424	PA	INDIVIDUAl	10+ years	SCI Mahanc	A	OWN	11/6/2021	14-07-2021	14-07-2021	Fully Paid
1065254	FL	INDIVIDUAl	10+ years	Tech Data C	A	MORTGAGE	2/9/2021	15-06-2021	12/10/2021	Charged Of
1064589	MI	INDIVIDUAl	10+ years	teltow cont	B	MORTGAGE	9/2/2021	16-03-2021	16-03-2021	Fully Paid
1057766	TX	INDIVIDUAl	10+ years	Ericsson	B	MORTGAGE	22-07-2021	13-09-2021	13-08-2021	Fully Paid
1062734	CA	INDIVIDUAl	3 years	myrvpartsp	B	RENT	11/9/2021	13-03-2021	12/10/2021	Charged Of
1062654	CA	INDIVIDUAl	4 years	AEG LIVE	B	RENT	11/8/2021	13-10-2021	13-09-2021	Fully Paid
1020855	CA	INDIVIDUAl	5 years	henkel corp	B	RENT	11/12/2021	14-12-2021	14-12-2021	Fully Paid
1060945	IL	INDIVIDUAl	4 years	AXA Assista	B	RENT	11/10/2021	14-12-2021	14-12-2021	Fully Paid
1060995	RI	INDIVIDUAl	< 1 year	HSA-UWC	B	RENT	11/12/2021	14-02-2021	13-10-2021	Charged Of
1046507	TX	INDIVIDUAl	1 year	Child's Day	B	RENT	2/12/2021	16-04-2021	14-12-2021	Fully Paid
1059936	NY	INDIVIDUAl	4 years	OEC Freight	C	RENT	9/10/2021	15-09-2021	12/11/2021	Fully Paid
1059497	FL	INDIVIDUAl	10+ years	Sandestin E	B	MORTGAGE	12/12/2021	14-12-2021	14-12-2021	Fully Paid
1058060	MD	INDIVIDUAl	10+ years		D	OWN	2/2/2021	16-05-2021	15-02-2021	Fully Paid

Exploratory & Walkthrough Data With Excel

Exploratory Data:

Analyzing loan data to understand its structure, quality, and distribution.

Identifying patterns, trends, and outliers within the loan dataset.

Data Walkthrough:

Navigating through the loan dataset to gain insights into various loan parameters and attributes.

Checking for missing values, duplicates, and inconsistencies within the dataset.

```
ject.sql -...8LJD\pc-mobile (71))  ⊕ ✕
Select * From [dbo].[Bank_Loan_Data];

Select COUNT(id)as Total_Loan_Applications From Bank_Loan_Data ;

Select COUNT(id)as MTD_Total_Loan_Applications From Bank_Loan_Data
Where MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021;

Select COUNT(id)as PMTD_Total_Loan_Applications From Bank_Loan_Data
Where MONTH(issue_date) = 11 AND YEAR(issue_date) = 2021;

Select SUM(Loan_amount) as Total_Funded_Amount From [dbo].[Bank_Loan_Data];

Select SUM(Loan_amount) as MTD_Total_Funded_Amuont From [dbo].[Bank_Loan_Data]
Where MONTH(issue date) = 12 AND YEAR(issue date) = 2021;
```
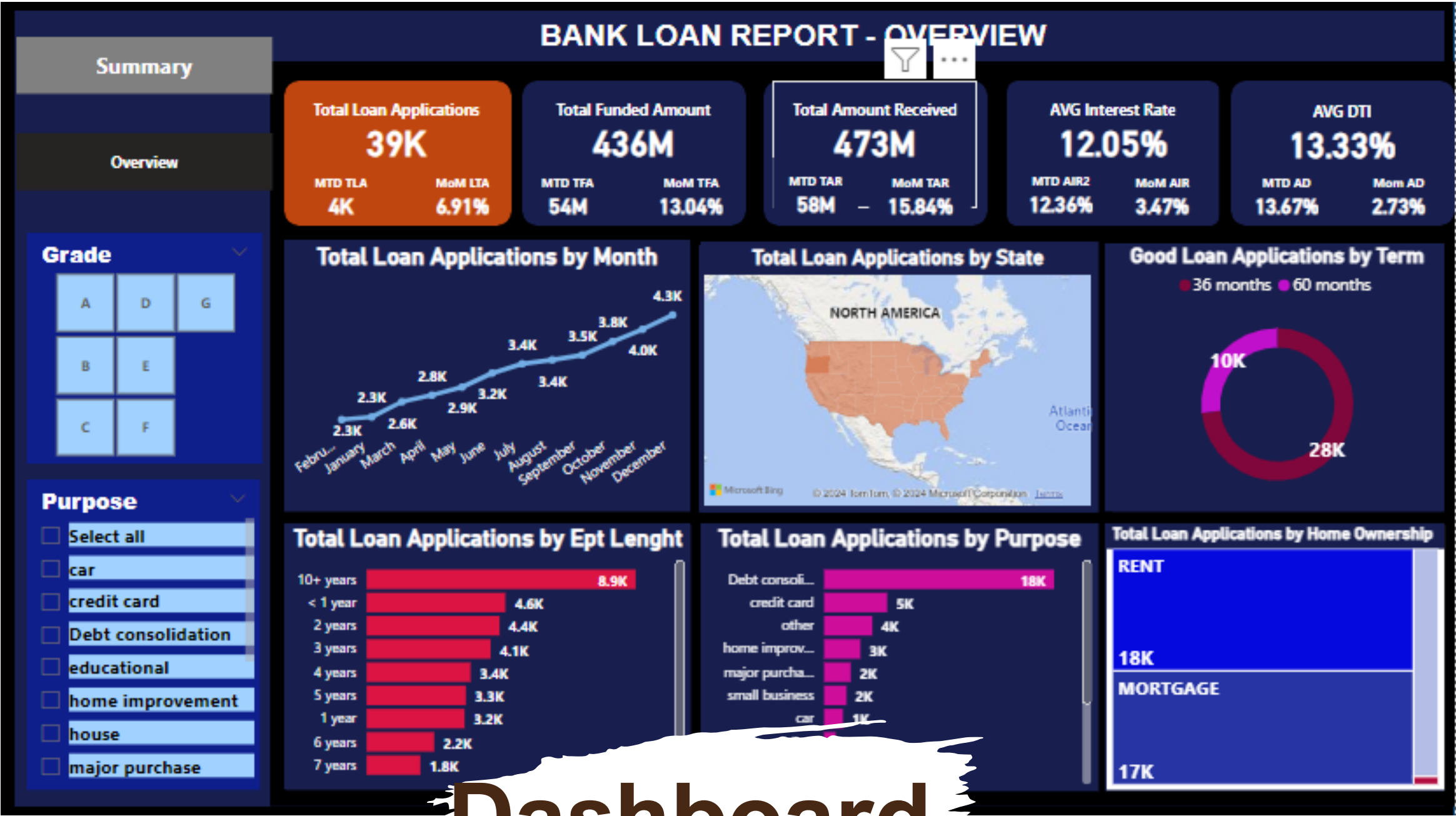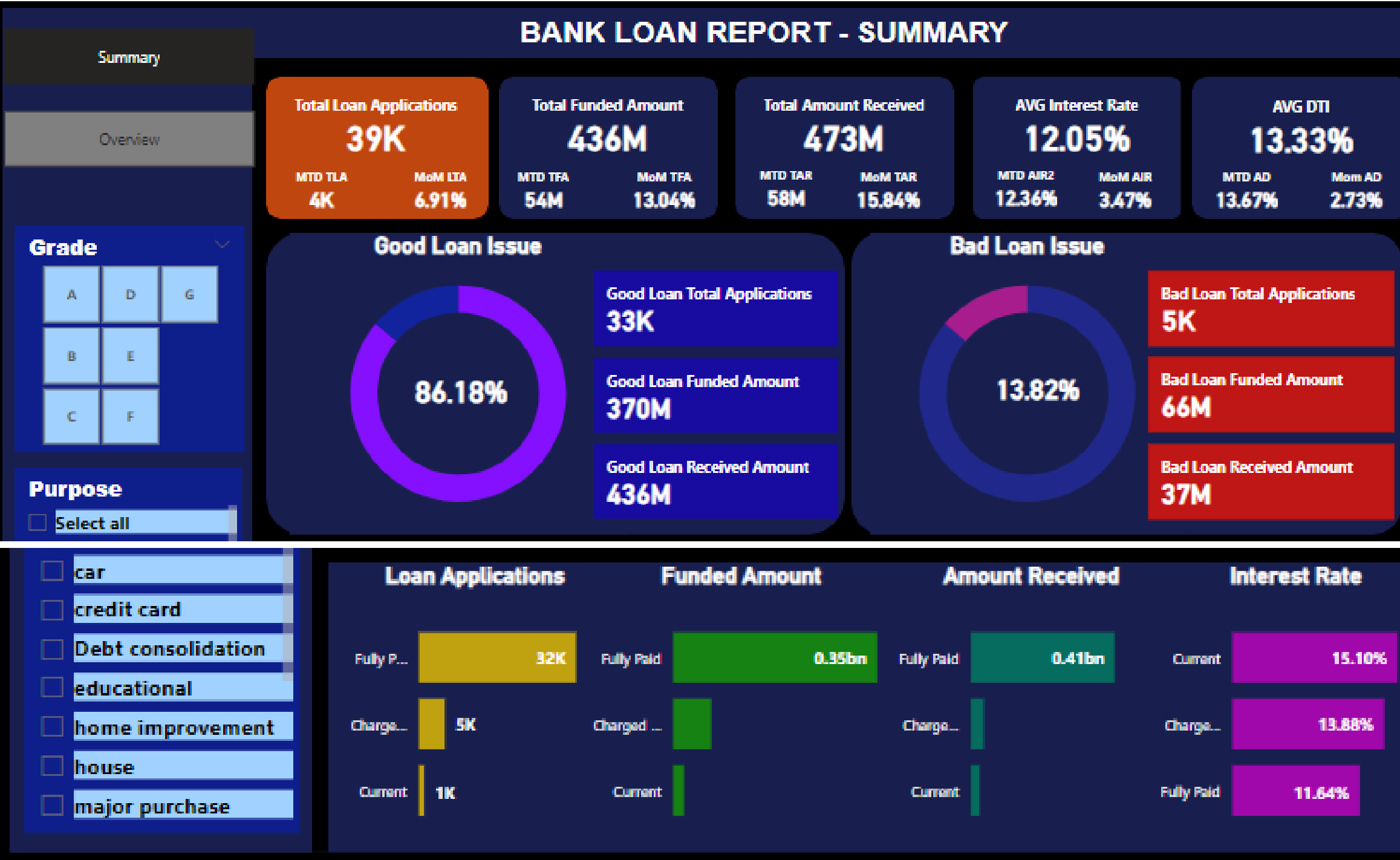
ults | Messages

d	address_state	application_type	emp_length	emp_title	grade	home_ownership	issue_date	last_credit_pull_date	last_payment_date	loan_status	next_payment_date	member_id	purpose
4734	CA	INDIVIDUAL	< 1 year	NULL	B	RENT	2021-08-09	2021-08-12	2021-10-11	Fully Paid	2021-11-11	80364	Debt consolidation
5742	NY	INDIVIDUAL	< 1 year	CNN	B	RENT	2021-05-08	2021-08-12	2021-06-11	Fully Paid	2021-07-11	114426	credit card
7245	TX	INDIVIDUAL	10+ years	city of beaumont texas	C	OWN	2021-03-10	2021-05-16	2021-03-13	Fully Paid	2021-04-13	138150	Debt consolidation
7416	CT	INDIVIDUAL	6 years	State Farm Insurance	C	RENT	2021-11-09	2021-05-16	2021-11-12	Fully Paid	2021-12-12	139635	Debt consolidation
8915	CA	INDIVIDUAL	3 years	QUalcomm Inc	B	RENT	2021-04-08	2021-03-14	2021-04-11	Fully Paid	2021-05-11	153417	Debt consolidation
9006	TX	INDIVIDUAL	3 years	NULL	C	MORTGAGE	2021-09-09	2021-09-12	2021-10-12	Fully Paid	2021-11-12	154254	credit card
1390	TX	INDIVIDUAL	< 1 year	NULL	A	MORTGAGE	2021-02-10	2021-03-12	2021-03-12	Fully Paid	2021-04-12	182594	credit card
1419	MD	INDIVIDUAL	1 year	Pension Benefit Guaranty Corporation	D	RENT	2021-02-10	2021-03-13	2021-10-12	Charged Off	2021-11-12	182917	Debt consolidation
2102	MA	INDIVIDUAL	5 years	Rockwell Automation Inc.	B	RENT	2021-04-10	2021-03-13	2021-02-11	Fully Paid	2021-03-11	191024	Debt consolidation
5426	MI	INDIVIDUAL	< 1 year	Infotrieve, Inc.	B	MORTGAGE	2021-08-09	2021-05-16	2021-06-11	Charged Off	2021-07-11	232106	car

SQL

1. Importing Data: Load loan data into a SQL database, ensuring proper table creation and data integrity.
2. Primary KPIs: Calculate key metrics like total loan applications, funded amount, amount received, average interest rate, and debt-to-income ratio using SQL aggregate functions.
3. Secondary KPIs: Compute additional indicators such as good and bad loan percentages, funded and received amounts for good and bad loans to assess loan portfolio quality.
4. Chart Data: Craft SQL queries to fetch specific data for creating charts, including line charts for monthly trends, bar charts for comparisons, and maps for regional analysis. These queries summarize and organize data for visualization.

BANK LOAN REPORT - OVERVIEW

Total Loan Applications	Total Funded Amount	Total Amount Received	AVG Interest Rate	AVG DTI
39K	**436M**	**473M**	**12.05%**	**13.33%**
MTD TLA 4K / MoM LTA 6.91%	MTD TFA 54M / MoM TFA 13.04%	MTD TAR 58M – MoM TAR 15.84%	MTD AIR2 12.36% / MoM AIR 3.47%	MTD AD 13.67% / Mom AD 2.73%

Grade

A	D	G
B	E	
C	F	

Purpose

- Select all
- car
- credit card
- Debt consolidation
- educational
- home improvement
- house
- major purchase

Total Loan Applications by Month

4.3K, 4.0K, 3.8K, 3.5K, 3.4K, 3.4K, 3.2K, 2.9K, 2.8K, 2.6K, 2.3K, 2.3K

Febru... January March April May June July August September October November December

Total Loan Applications by State

NORTH AMERICA
Atlantic Ocean
Microsoft Bing © 2024 TomTom, © 2024 Microsoft Corporation Terms

Good Loan Applications by Term

- 36 months
- 60 months

10K
28K

Total Loan Applications by Ept Lenght

10+ years	8.9K
< 1 year	4.6K
2 years	4.4K
3 years	4.1K
4 years	3.4K
5 years	3.3K
1 year	3.2K
6 years	2.2K
7 years	1.8K

Total Loan Applications by Purpose

Debt consoli...	18K
credit card	5K
other	4K
home improv...	3K
major purcha...	2K
small business	2K
car	1K

Total Loan Applications by Home Ownership

RENT 18K
MORTGAGE 17K

Dashboard

Total Loan Applications by Month

4.3K, 4.0K, 3.8K, 3.5K, 3.4K, 3.4K, 3.2K, 2.9K, 2.8K, 2.6K, 2.3K, 2.3K

Febru... January March April May June July August September October November December

Good Loan Applications by Term

- 36 months
- 60 months

10K
28K

Power BI

1. Designing KPIs: Create visuals for primary KPIs like total loan applications and funded amount. Develop calculated measures for secondary KPIs such as good and bad loan percentages.
2. Loan Status Chart: Design a chart displaying loan status KPIs like application percentages and funded amounts for good and bad loans.
3. Chart Design: Generate charts for loan trends, regional analysis, loan terms, employee lengths, loan purposes, and home ownership.