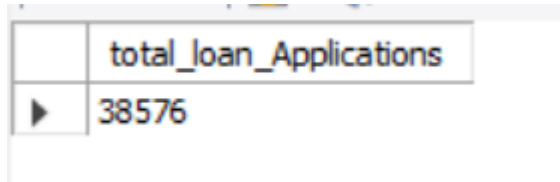# BANK LOAN REPORT QUERY DOCUMENT

A. BANK LOAN REPORT | SUMMARY

KPI's:

Total Loan Applications

select count(id) as total_loan_Applications from bank_loan_data;
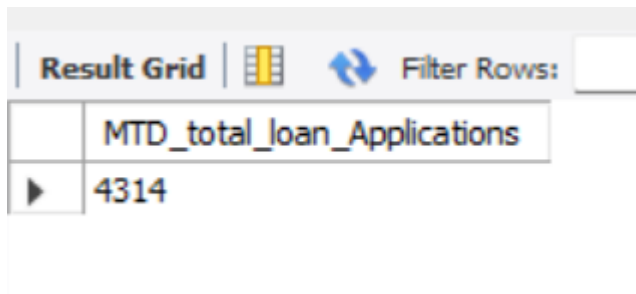
	total_loan_Applications
▶	38576

By executing above query, we can know the total loan applications in a Bank.

MTD Loan Applications

select count(id) as MTD_total_loan_Applications from bank_loan_data

where month(issue_date) = 12 AND year(issue_date) = 2021;

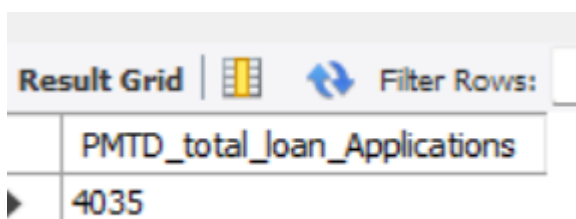| Result Grid	Filter Rows:	
	MTD_total_loan_Applications	
▶	4314	

The output of this query is the total count of loan applications issued in December 2021 which is of Month to date.

PMTD Loan Applications

select count(id) as PMTD_total_loan_Applications from bankloandata

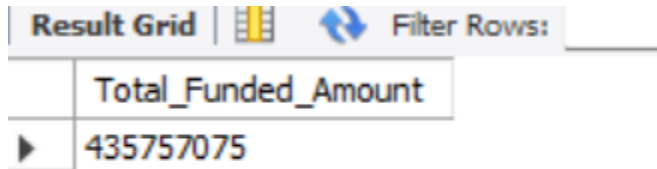where month(issue_date) = 11 AND year(issue_date) = 2021;

Result Grid	Filter Rows:	
	PMTD_total_loan_Applications	
▶	4035	

The output of this query is indicating the total count of loan applications issued in November 2021 which is previous month to date.

Total Funded Amount

SELECT SUM (loan_amount) AS Total_Funded_Amount FROM bankloandata;

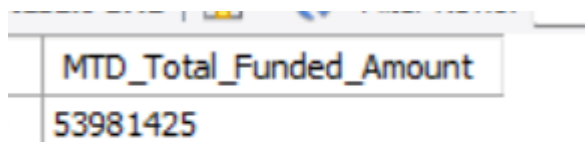| Total_Funded_Amount |
| --- |
| ▶ 435757075 |

The output of this query is representing the total amount of all loans funded as recorded in the bank_loan_data. This provides an aggregate view of the total loan amounts distributed.

MTD Total Funded Amount

SELECT SUM (loan_amount) AS MTD_Total_Funded_Amount FROM bankloandata

WHERE MONTH (issue_date) = 12 AND year(issue_date) = 2021;

MTD_Total_Funded_Amount
53981425

The output of this query is representing the total sum of loan amounts funded in December 2021. Which is total funded amount of month to date. This provides insight into the total financial activity related to loans during that particular month and year.

PMTD Total Funded Amount

SELECT SUM (loan_amount) AS PMTD_Total_Funded_Amount FROM bankloandata

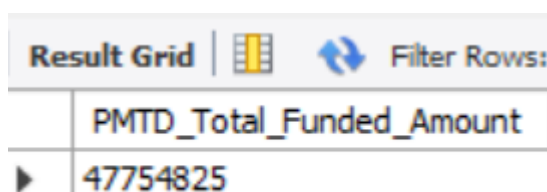WHERE MONTH (issue_date) = 11 and year(issue_date) = 2021;

PMTD_Total_Funded_Amount
▶ 47754825

The output of this query represents the total amount of previous month to date loans funded in November 2021. This provides insight into the total funding activity for that specific month and year.

Total Amount Received

 SELECT SUM (total_payment) AS Total_Amount_Collected FROM bankloandata;

Total_Amount_Collected
473070933

The output of this query is representing the total amount of all payments collected across all loans in the bankloandata table. This figure provides an aggregate view of the total revenue or payments received from loans.

MTD Total Amount Received

SELECT SUM (total_payment) AS MTD_Total_Amount_Collected FROM bankloandata

WHERE MONTH (issue_date) = 12 AND year(issue_date) = 2021;

MTD_Total_Amount_Collected
58074380

The output of this query is indicating the total amount of loan payments collected in December 2021. This figure reflects the aggregate amount received from payments for loans issued during that month and year.

PMTD Total Amount Received

SELECT SUM (total_payment) AS PMTD_Total_Amount_Collected FROM bankloandata

WHERE MONTH (issue_date) = 11 AND year(issue_date) = 2021;

	PMTD_Total_Amount_Collected
▶	50132030

The output of this query will be a single number representing the total amount of loan payments collected in November 2021. This figure provides an aggregate view of the payments received for loans issued during that month and year.

Average Interest Rate

select round(avg(int_rate),4) * 100 as avg_interest_rate from bankloandata;

	avg_interest_rate
▶	12.049999999999999

The output of this query is representing the average interest rate across all loans, rounded to four decimal places and expressed as a percentage. This provides a precise measure of the typical interest rate applied to loans in the dataset.
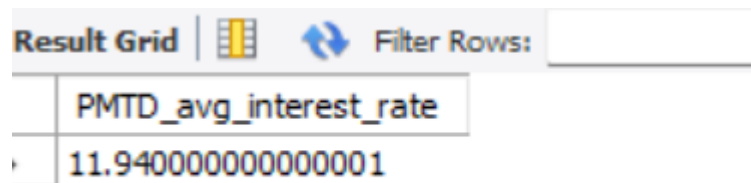
MTD Average Interest

select round(avg(int_rate),2) * 100 as MTD_avg_interest_rate from bankloandata

where month(issue_date) = 12 and year(issue_date) = 2021;

	MTD_avg_interest_rate
▶	12.36

The output of this query is showing the average interest rate for loans issued in December 2021, rounded to two decimal places and expressed as a percentage. This provides insight into the typical interest rate applied to loans for that specific month and year.

PMTD Average Interest

select round(avg(int_rate),2) * 100 as PMTD_avg_interest_rate from bankloandata

where month(issue_date) = 11 and year(issue_date) = 2021;

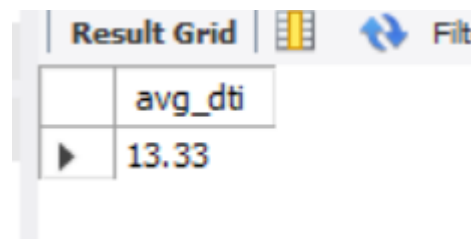| PMTD_avg_interest_rate |
| --- |
| 11.940000000000001 |

The output of this query is showing the average interest rate for loans issued in November 2021. This rate will be rounded to two decimal places and expressed as a percentage, providing insight into the typical interest rate for loans issued during that specific month and year.

Average DTI

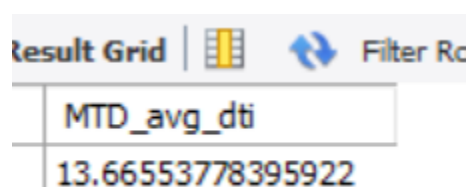select round(avg(dti), 4)* 100 as avg_dti from bankloandata;

avg_dti
13.33

The output of this query will be a single number indicating the average Debt-to-Income (DTI) ratio across all loans in the bankloandata table. This value will be rounded to four decimal places and expressed as a percentage, providing insight into the average financial burden relative to income for the loan applicants.

MTD Average DTI

select round(avg(dti), 4)* 100 as MTD_avg_dti from bankloandata

where month(issue_date) = 12 and year(issue_date) = 2021;

MTD_avg_dti
13.66553778395922

The output of this query is representing the average Debt-to-Income (DTI) ratio for loans issued in December 2021. This value will be rounded to four decimal places and expressed as a percentage, providing insight into the typical financial burden relative to income for loan applicants during that specific month and year.

PMTD Average DTI

select round(avg(dti), 4) * 100 as PMTD_avg_dti from bankloandata

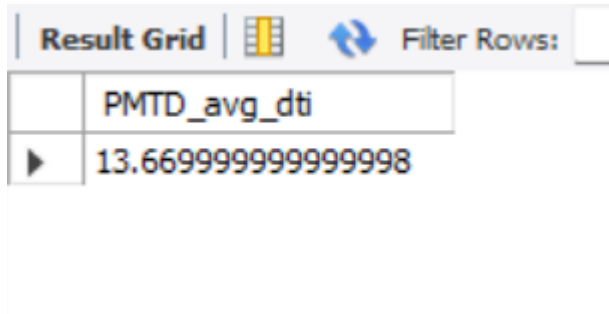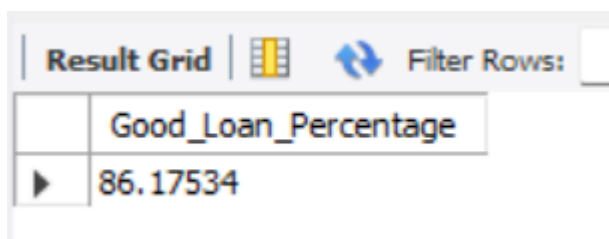where month(issue_date) = 12 and year(issue_date) = 2021;

	PMTD_avg_dti
▶	13.669999999999998

The output of this query is showing the average Debt-to-Income (DTI) ratio for loans issued in December 2021. This value will be rounded to four decimal places and converted to a percentage, providing a measure of the average financial burden relative to income for loan applicants during that month and year.

GOOD LOAN ISSUED

Good Loan Percentage

```
SELECT
    (COUNT (CASE WHEN loan_status = 'Fully Paid' OR loan_status = 'Current' THEN id END) * 100.0) /
        COUNT (id) AS Good_Loan_Percentage
FROM bankloandata;
```

	Good_Loan_Percentage
▶	86.17534

The output of this query is showing the percentage of loans that are either "Fully Paid" or "Current" relative to the total number of loans. This metric provides insight into the proportion of loans that are considered to be in good standing within the dataset.

Good Loan Applications

SELECT COUNT (id) AS Good_Loan_Applications FROM bankloandata

WHERE loan_status = 'Fully Paid' OR loan_status = 'Current';

The output of this query is representing the total count of loan applications that have a status of "Fully Paid" or "Current". This provides an indication of the number of loans that are considered to be in a favourable or active status.

Good Loan Funded Amount

SELECT SUM (loan_amount) AS Good_Loan_Funded_amount FROM bankloandata

WHERE loan_status = 'Fully Paid' OR loan_status = 'Current';

The output of this query will be a single number representing the total amount of all loans that have a status of "Fully Paid" or "Current". This figure provides insight into the total funding associated with loans that are considered to be in a favorable or active status.

Good Loan Amount Received

SELECT SUM (total_payment) AS Good_Loan_amount_received FROM bankloandata

WHERE loan_status = 'Fully Paid' OR loan_status = 'Current';

The output of this query is representing the total amount of payments received from loans that are classified as "Fully Paid" or "Current". This figure provides an indication of the total revenue or payments collected from loans that are considered to be in good standing or active.

BAD LOAN ISSUED

Bad Loan Percentage

SELECT

  (COUNT (CASE WHEN loan_status = 'Charged Off' THEN id END) * 100.0) /

COUNT (id) AS Bad_Loan_Percentage
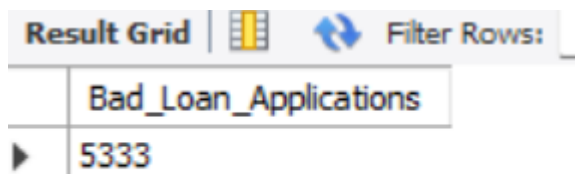
FROM bankloandata;

Bad_Loan_Percentage
13.82466

The output of this query will be a single number showing the percentage of loans that are classified as "Charged Off" out of the total number of loans. This percentage indicates the proportion of loans that are in a problematic or default status within the dataset.

Bad Loan Applications

SELECT COUNT (id) AS Bad_Loan_Applications FROM bankloandata
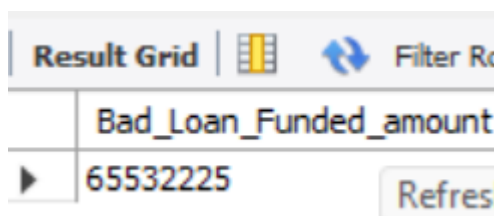
WHERE loan_status = 'Charged Off';

Bad_Loan_Applications
5333

The output of this query is representing the total count of loan applications that are marked as "Charged Off". This figure indicates the number of loans that have defaulted or are considered unrecoverable in the dataset.
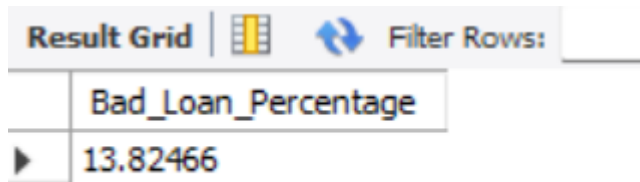
Bad Loan Funded Amount

SELECT SUM (loan_amount) AS Bad_Loan_Funded_amount FROM bankloandata
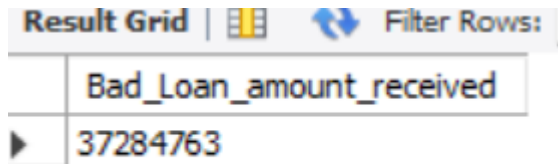
WHERE loan_status = 'Charged Off';

Bad_Loan_Funded_amount
65532225

The output of this query is representing the total sum of loan amounts for loans that have been classified as "Charged Off." This figure provides insight into the total financial impact of loans that are considered unrecoverable or defaulted within the dataset.

Bad Loan Amount Received

SELECT SUM (total_payment) AS Bad_Loan_amount_received FROM bankloandata
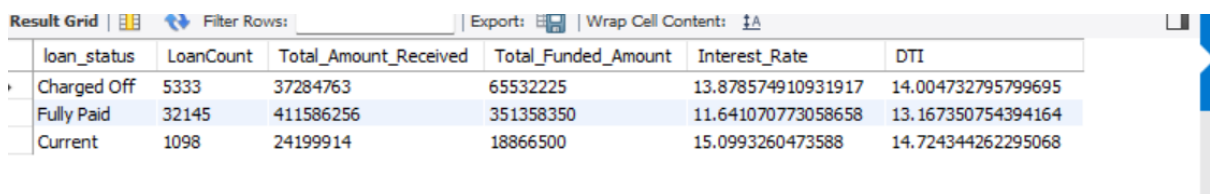
WHERE loan_status = 'Charged Off';

The output of this query is representing the total amount of payments received for loans that have been classified as "Charged Off." This figure provides insight into the amount of payments that have been collected on loans that are considered unrecoverable or defaulted within the dataset.

LOAN STATUS

SELECT

loan_status,

COUNT (id) AS LoanCount,

SUM (total_payment) AS Total_Amount_Received,

SUM (loan_amount) AS Total_Funded_Amount,

AVG (int_rate * 100) AS Interest_Rate,

AVG (dti * 100) AS DTI

FROM

bankloandata

GROUP BY

loan_status;

loan_status	LoanCount	Total_Amount_Received	Total_Funded_Amount	Interest_Rate	DTI
Charged Off	5333	37284763	65532225	13.878574910931917	14.004732795799695
Fully Paid	32145	411586256	351358350	11.641070773058658	13.167350754394164
Current	1098	24199914	18866500	15.0993260473588	14.724344262295068

he output of this query will be a table where each row represents a unique loan status. For each status, the query provides:

- The total count of loans (LoanCount).

- The total amount of payments received (Total_Amount_Received).

- The total amount of loans funded (Total_Funded_Amount).

- The average interest rate (Interest_Rate) as a percentage.

- The average Debt-to-Income ratio (DTI) as a percentage.

This aggregated data helps in understanding the distribution and financial characteristics of loans across different statuses in the dataset.

```
SELECT

        loan_status,

        SUM (total_payment) AS MTD_Total_Amount_Received,

        SUM (loan_amount) AS MTD_Total_Funded_Amount

FROM bankloandata

WHERE MONTH (issue_date) = 12

GROUP BY loan_status;
```

loan_status	MTD_Total_Amount_Received	MTD_Total_Funded_Amount
Fully Paid	47815851	41302025
Charged Off	5324211	8732775
Current	4934318	3946625

The output of this query will be a table where each row represents a unique loan status for loans issued in December. For each loan status, the query provides:

- MTD_Total_Amount_Received: The total amount of payments received from loans issued in December, grouped by status.

- MTD_Total_Funded_Amount: The total amount of loans funded for loans issued in December, grouped by status.

This data helps to analyse the financial performance and distribution of loans based on their status for the month of December.

A. BANK LOAN REPORT | OVERVIEW

MONTH

SELECT

MONTH (issue_date) AS Month_number,

        MONTHNAME (issue_date) AS Month_name,

        COUNT (id) AS Total_Loan_Applications,

        SUM (loan_amount) AS Total_Funded_Amount,

        SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY MONTH (issue_date), MONTHNAME (issue_date)

ORDER BY MONTH (issue_date);

Result Grid	Filter Rows:		Export:	Wrap Cell Content:
Month_number	Month_name	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	January	2332	25031650	27578836
2	February	2279	24647825	27717745
3	March	2627	28875700	32264400
4	April	2755	29800800	32495533
5	May	2911	2911 31738350	33750523
6	June	3184	34161475	36164533
7	July	3366	35813900	38827220
8	August	3441	38149600	42682218
9	September	3536	40907725	43983948

The output of this query will be a table where each row represents a month. For each month, the query provides:

- Month_number: The numeric representation of the month.

- Month_name: The full name of the month.

- Total_Loan_Applications: The count of loan applications.

- Total_Funded_Amount: The total amount of loans funded.

- Total_Amount_Received: The total amount of payments received.

The results are grouped by month and ordered chronologically, giving an overview of monthly loan activity and financial performance.

STATE

SELECT

        address_state AS State,

        COUNT (id) AS Total_Loan_Applications,

        SUM (loan_amount) AS Total_Funded_Amount,

        SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY address_state

ORDER BY COUNT (id) Desc;

State	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
CA	6894	78484125	83901234
NY	3701	42077050	46108181
FL	2773	30046125	31601905
TX	2664	31236650	34392715
NJ	1822	21657475	23425159
IL	1486	17124225	18875941
PA	1482	15826525	17462908
VA	1375	15982650	17711443
GA	1355	15480325	16728040
MA	1310	15051000	16676279
OH	1188	12991375	14330148

The output of this query will be a table where each row represents a state. For each state, the query provides:

- State: The name or abbreviation of the state.

- Total_Loan_Applications: The number of loan applications submitted from that state.

- Total_Funded_Amount: The total amount of loans funded in that state.

- Total_Amount_Received: The total amount of payments received from loans in that state.

The results are ordered by the number of loan applications, with states having the highest number of applications listed at the top. This provides insight into loan activity and financial performance by state.

TERM

SELECT

  term AS Term,

  COUNT (id) AS Total_Loan_Applications,

  SUM (loan_amount) AS Total_Funded_Amount,

  SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY term

ORDER BY term;

Term	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
36 months	28237	273041225	294709458
60 months	10339	162715850	178361475

The output of this query will be a table where each row represents a loan term. For each loan term, the query provides:

- Term: The length of the loan term.

- Total_Loan_Applications: The number of loan applications with that term.

- Total_Funded_Amount: The total amount of loans funded with that term.

- Total_Amount_Received: The total amount of payments received for loans with that term.

The results are ordered by the loan term in ascending order, allowing for easy comparison of loan activity and financial performance across different loan term lengths. This helps to understand how loan terms impact the volume and financial metrics of loan applications.

EMPLOYEE LENGTH

SELECT

emp_length AS Employee_Length,

COUNT (id) AS Total_Loan_Applications,

SUM (loan_amount) AS Total_Funded_Amount,

SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY emp_length

The output of this query will be a table where each row represents a specific length of employment. For each length of employment, the query provides:

- Employee Length: The duration of employment with the current employer.

- Total_Loan_Applications: The number of loan applications from individuals with that employment duration.

- Total_Funded_Amount: The total amount of loans funded to individuals with that employment duration.

- Total_Amount_Received: The total amount of payments received from loans to individuals with that employment duration.

This summary helps to understand how the length of employment affects loan applications and financial metrics, providing insights into the relationship between employment stability and loan performance.

PURPOSE

SELECT

purpose AS PURPOSE,

COUNT (id) AS Total_Loan_Applications,

SUM (loan_amount) AS Total_Funded_Amount,

SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY purpose

ORDER BY purpose;

PURPOSE	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
car	1497	10223575	11324914
credit card	4998	58885175	65214084
Debt consolidation	18214	232459675	253801871
educational	315	2161650	2248380
home improvement	2876	33350775	36380930
house	366	4824925	5185538
major purchase	2110	17251600	18676927
medical	667	5533225	5851372
moving	559	3748125	3999899
other	3824	31155750	33289676
renewable_energy	94	845750	898931

The output of this query will be a table where each row represents a specific loan purpose. For each loan purpose, the query provides:

- PURPOSE: The purpose of the loan.

- Total_Loan_Applications: The count of loan applications with that purpose.

- Total_Funded_Amount: The total amount of loans funded for that purpose.

- Total_Amount_Received: The total amount of payments received for loans with that purpose.

This summary helps in understanding how different loan purposes impact the number of applications, funding amounts, and payment collections, providing insight into which purposes are more prevalent and financially significant.

HOME OWNERSHIP

SELECT

    home_ownership AS Home_Ownership,

    COUNT (id) AS Total_Loan_Applications,

    SUM (loan_amount) AS Total_Funded_Amount,

    SUM (total_payment) AS Total_Amount_Received

FROM bankloandata

GROUP BY home_ownership

ORDER BY home_ownership;

Home_Ownership	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
MORTGAGE	17198	219329150	238474438
NONE	3	16800	19053
OTHER	98	1044975	1025257
OWN	2838	29597675	31729129
RENT	18439	185768475	201823056

The output of this query will be a table where each row represents a specific home ownership status. For each home ownership status, the query provides:

- Home_Ownership: The type of home ownership (e.g., "Own", "Rent", "Mortgage").

- Total_Loan_Applications: The count of loan applications from individuals with that home ownership status.

- Total_Funded_Amount: The total amount of loans funded to individuals with that home ownership status.

- Total_Amount_Received: The total amount of payments received from loans to individuals with that home ownership status.

This summary helps to understand how different home ownership statuses impact the number of loan applications, funding amounts, and payment collections, providing insights into the financial behaviour and characteristics of applicants based on their home ownership status.

SQL SCRIPT:
Bank loan Analysis