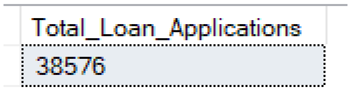
Bank Loan Report Query Document – SQL

A. Bank Loan Report | Summary

KPI’S

Total Loan Amount

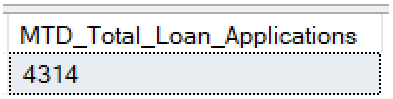
```sql
SELECT COUNT(id) AS Total_Loan_Applications from bank_loan_data
```



Total_Loan_Applications
38576

MTD Loan Applications

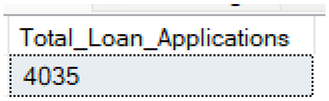
```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT COUNT(id) AS Total_Loan_Applications
FROM bank_loan_data, FirstDayOfMonth
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date;
```



MTD_Total_Loan_Applications
4314

PMTD Loan Applications

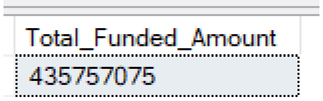
```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current and previous month based on the most recent
issue_date
FirstAndPreviousMonth AS (
    SELECT
        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date) - 1, 0) AS
first_day_prev_month,
        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_curr_month,
        DATEADD(DAY, -1, DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0)) AS
last_day_prev_month
    FROM MaxDate
)
-- Query to count the number of loan applications PMTD
SELECT COUNT(id) AS Total_Loan_Applications
FROM bank_loan_data, FirstAndPreviousMonth
WHERE issue_date >= FirstAndPreviousMonth.first_day_prev_month
  AND issue_date <= FirstAndPreviousMonth.last_day_prev_month;
```



Total_Loan_Applications
4035

Total Funded Amount

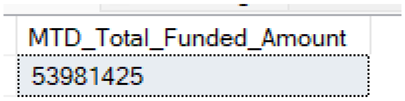
```sql
SELECT * FROM bank_loan_data
SELECT SUM([loan_amount]) AS Total_Funded_Amount FROM bank_loan_data
```



Total_Funded_Amount
435757075

MTD Total Funded Amount

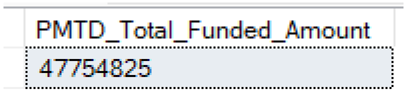
```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT SUM(loan_amount) AS MTD_Total_Funded_Amount
FROM bank_loan_data, FirstDayOfMonth
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date;
```



MTD_Total_Funded_Amount
53981425

PMTD Total Funded Amount

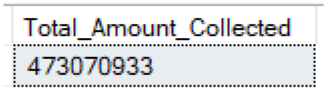
```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current and previous month based on the most recent
issue_date
FirstAndPreviousMonth AS (
    SELECT
        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date) - 1, 0) AS
first_day_prev_month,
        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_curr_month,
        DATEADD(DAY, -1, DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0)) AS
last_day_prev_month
    FROM MaxDate
)
-- Query to count the number of loan applications PMTD
SELECT SUM(loan_amount) AS PMTD_Total_Funded_Amount
FROM bank_loan_data, FirstAndPreviousMonth
WHERE issue_date >= FirstAndPreviousMonth.first_day_prev_month
  AND issue_date <= FirstAndPreviousMonth.last_day_prev_month;
```



PMTD_Total_Funded_Amount
47754825

Total Amount Received

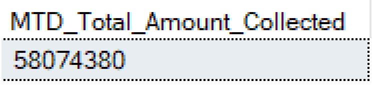
```
SELECT SUM(total_payment) AS Total_Amount_Collected FROM bank_loan_data
```



Total_Amount_Collected
473070933

MTD Total Amount Received

```
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT SUM(total_payment) AS MTD_Total_Amount_Collected
FROM bank_loan_data, FirstDayOfMonth
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date;
```



MTD_Total_Amount_Collected
58074380

PMTD Total Amount Received

```
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current and previous month based on the most recent
issue_date
FirstAndPreviousMonth AS (
    SELECT
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        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_curr_month,
        DATEADD(DAY, -1, DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0)) AS
last_day_prev_month
    FROM MaxDate
)
-- Query to count the number of loan applications PMTD
SELECT SUM(total_payment) AS PMTD_Total_Amount_Collected
FROM bank_loan_data, FirstAndPreviousMonth
WHERE issue_date >= FirstAndPreviousMonth.first_day_prev_month
  AND issue_date <= FirstAndPreviousMonth.last_day_prev_month;
```
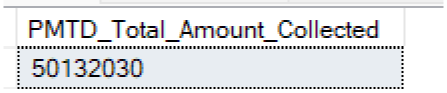
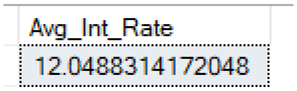



PMTD_Total_Amount_Collected
50132030

Avg Interest Rate

```
SELECT AVG(int_rate)*100 AS Avg_Int_Rate FROM bank_loan_data
```

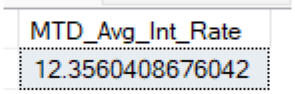


Avg_Int_Rate
12.0488314172048

MTD Avg Interest Rate

```
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT AVG(int_rate)*100 AS MTD_Avg_Int_Rate
FROM bank_loan_data, FirstDayOfMonth
```

```sql
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date;
```



MTD_Avg_Int_Rate
12.3560408676042

PMTD Avg Interest Rate

```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current and previous month based on the most recent
issue_date
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        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date) - 1, 0) AS
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        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_curr_month,
        DATEADD(DAY, -1, DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0)) AS
last_day_prev_month
    FROM MaxDate
)
-- Query to count the number of loan applications PMTD
SELECT AVG(int_rate)*100 AS PMTD_Avg_Int_Rate
FROM bank_loan_data, FirstAndPreviousMonth
WHERE issue_date >= FirstAndPreviousMonth.first_day_prev_month
  AND issue_date <= FirstAndPreviousMonth.last_day_prev_month;
```
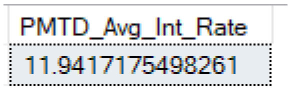
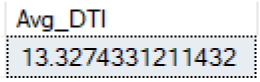



PMTD_Avg_Int_Rate
11.9417175498261

Avg DTI

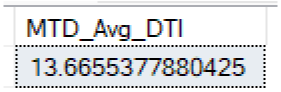
```sql
SELECT AVG(dti)*100 AS Avg_DTI FROM bank_loan_data
```



Avg_DTI
13.3274331211432

MTD Avg DTI

```sql
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT AVG(dti)*100 AS MTD_Avg_DTI
FROM bank_loan_data, FirstDayOfMonth
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date;
```



MTD_Avg_DTI
13.6655377880425

PMTD Avg DTI

```
-- Calculate the most recent issue_date
WITH MaxDate AS (
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    FROM bank_loan_data
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    SELECT
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        DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_curr_month,
        DATEADD(DAY, -1, DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0)) AS
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WHERE issue_date >= FirstAndPreviousMonth.first_day_prev_month
  AND issue_date <= FirstAndPreviousMonth.last_day_prev_month;
```
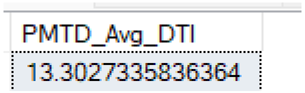
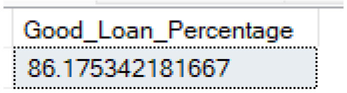



PMTD_Avg_DTI
13.3027335836364

GOOD LOAN ISSUED

Good Loan Percentage

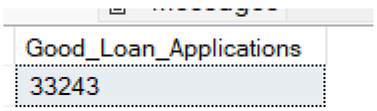
```
SELECT
    (COUNT(CASE WHEN loan_status = 'Fully Paid' OR loan_status = 'Current' THEN id END) *
100.0) /
        COUNT(id) AS Good_Loan_Percentage
FROM bank_loan_data
```



```
Good_Loan_Percentage
86.175342181667
```

Good Loan Applications

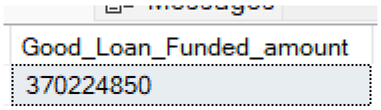
```
SELECT COUNT(id) AS Good_Loan_Applications FROM bank_loan_data
WHERE loan_status = 'Fully Paid' OR loan_status = 'Current'
```



```
Good_Loan_Applications
33243
```

Good Loan Funded amount

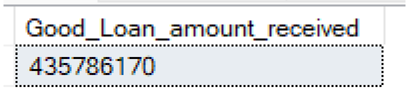
```
SELECT SUM(loan_amount) AS Good_Loan_Funded_amount FROM bank_loan_data
WHERE loan_status = 'Fully Paid' OR loan_status = 'Current'
```



```
Good_Loan_Funded_amount
370224850
```

Good Loan Amount Received

```
SELECT SUM(total_payment) AS Good_Loan_amount_received FROM bank_loan_data
WHERE loan_status = 'Fully Paid' OR loan_status = 'Current'
```

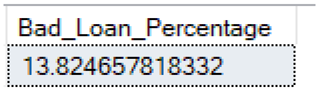


```
Good_Loan_amount_received
435786170
```

BAD LOAN ISSUED

Bad Loan Percentage

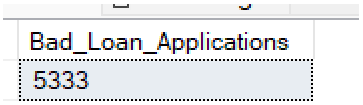
```
SELECT
    (COUNT(CASE WHEN loan_status = 'Charged Off' THEN id END) * 100.0) /
      COUNT(id) AS Bad_Loan_Percentage
FROM bank_loan_data
```



Bad_Loan_Percentage
13.824657818332

Bad Loan Applications

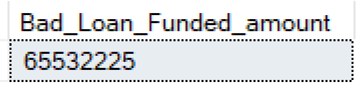
```
SELECT COUNT(id) AS Bad_Loan_Applications FROM bank_loan_data
WHERE loan_status = 'Charged Off'
```



Bad_Loan_Applications
5333

Bad Loan Funded Amount

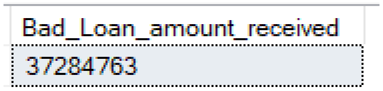
```
SELECT SUM(loan_amount) AS Bad_Loan_Funded_amount FROM bank_loan_data
WHERE loan_status = 'Charged Off'
```



Bad_Loan_Funded_amount
65532225

Bad Loan Amount Received

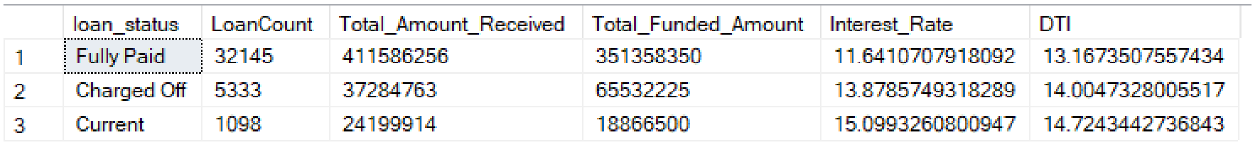
```
SELECT SUM(total_payment) AS Bad_Loan_amount_received FROM bank_loan_data
WHERE loan_status = 'Charged Off'
```



Bad_Loan_amount_received
37284763

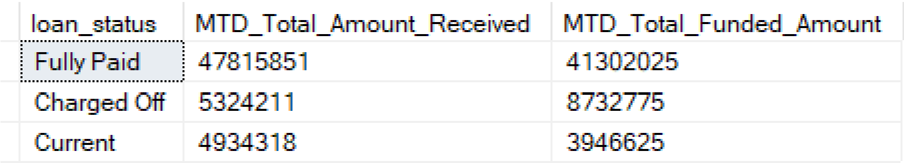
LOAN STATUS

```
        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
        bank_loan_data
    GROUP BY
        loan_status
```



	loan_status	LoanCount	Total_Amount_Received	Total_Funded_Amount	Interest_Rate	DTI
1	Fully Paid	32145	411586256	351358350	11.6410707918092	13.1673507557434
2	Charged Off	5333	37284763	65532225	13.8785749318289	14.0047328005517
3	Current	1098	24199914	18866500	15.0993260800947	14.7243442736843

```
-- Calculate the most recent issue_date
WITH MaxDate AS (
    SELECT MAX(issue_date) AS max_issue_date
    FROM bank_loan_data
),
-- Calculate the first day of the current month of the most recent issue_date
FirstDayOfMonth AS (
    SELECT DATEADD(MONTH, DATEDIFF(MONTH, 0, max_issue_date), 0) AS first_day_of_month,
           max_issue_date
    FROM MaxDate
)
-- Query to count the number of loan applications MTD
SELECT
    loan_status,
    SUM(total_payment) AS MTD_Total_Amount_Received,
    SUM(loan_amount) AS MTD_Total_Funded_Amount
FROM bank_loan_data, FirstDayOfMonth
WHERE issue_date >= FirstDayOfMonth.first_day_of_month
  AND issue_date <= FirstDayOfMonth.max_issue_date
GROUP BY loan_status;
```

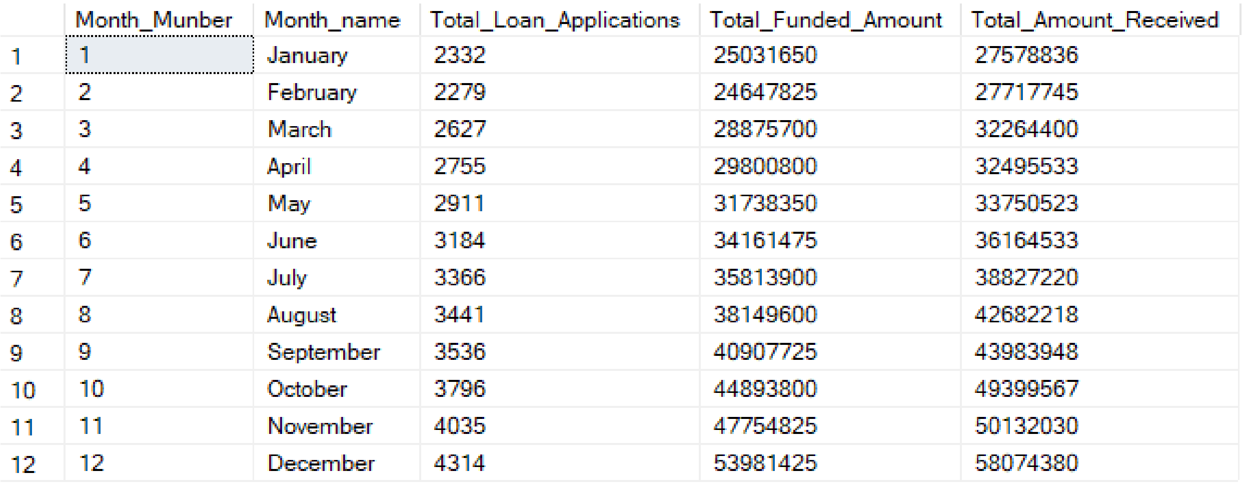


loan_status	MTD_Total_Amount_Received	MTD_Total_Funded_Amount
Fully Paid	47815851	41302025
Charged Off	5324211	8732775
Current	4934318	3946625

B. BANK LOAN REPORT | OVERVIEW

MONTH

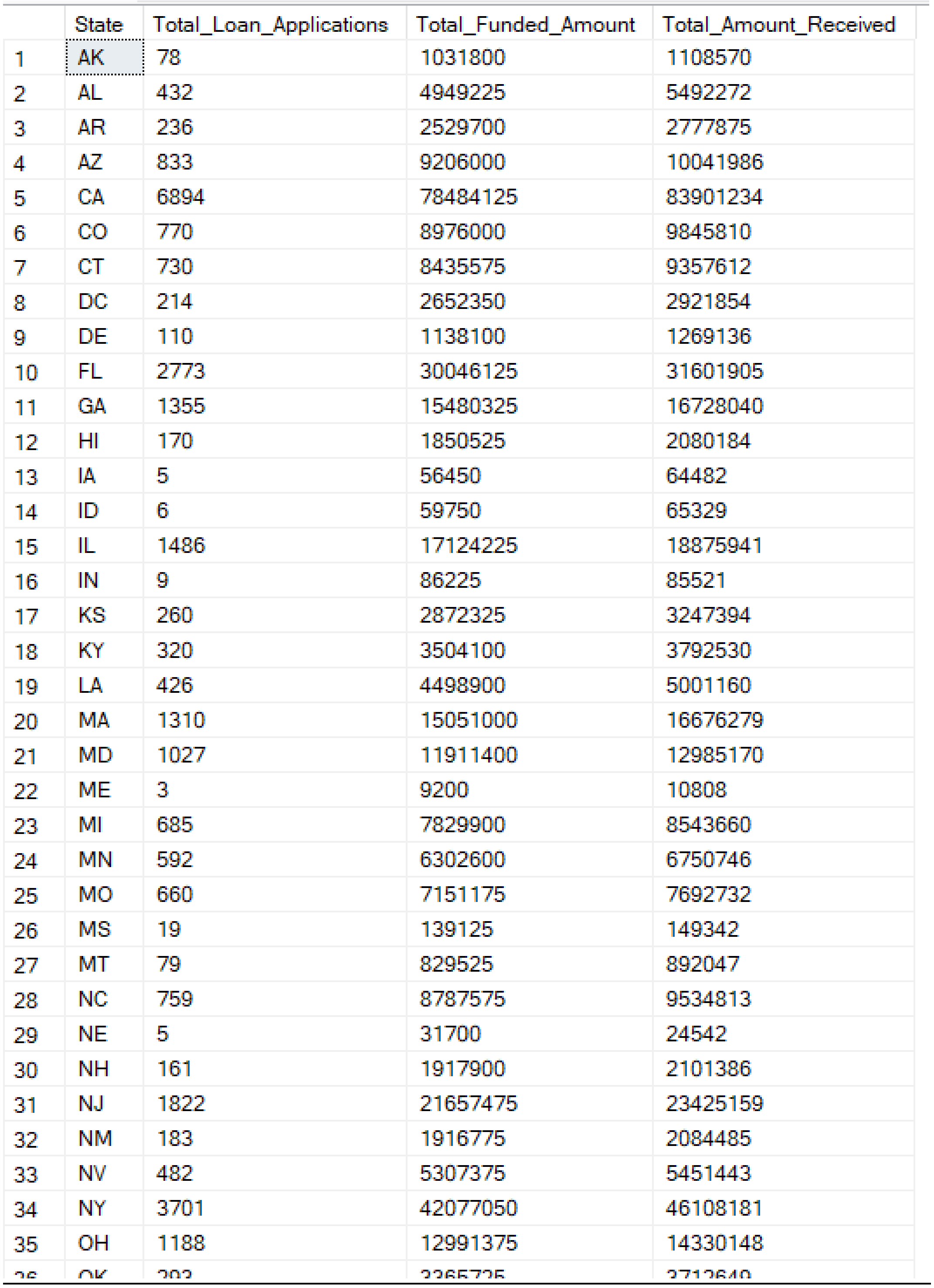
```
SELECT
	MONTH(issue_date) AS Month_Munber,
	DATENAME(MONTH, issue_date) AS Month_name,
	COUNT(id) AS Total_Loan_Applications,
	SUM(loan_amount) AS Total_Funded_Amount,
	SUM(total_payment) AS Total_Amount_Received
FROM bank_loan_data
GROUP BY MONTH(issue_date), DATENAME(MONTH, issue_date)
ORDER BY MONTH(issue_date)
```



	Month_Munber	Month_name	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	1	January	2332	25031650	27578836
2	2	February	2279	24647825	27717745
3	3	March	2627	28875700	32264400
4	4	April	2755	29800800	32495533
5	5	May	2911	31738350	33750523
6	6	June	3184	34161475	36164533
7	7	July	3366	35813900	38827220
8	8	August	3441	38149600	42682218
9	9	September	3536	40907725	43983948
10	10	October	3796	44893800	49399567
11	11	November	4035	47754825	50132030
12	12	December	4314	53981425	58074380

STATE

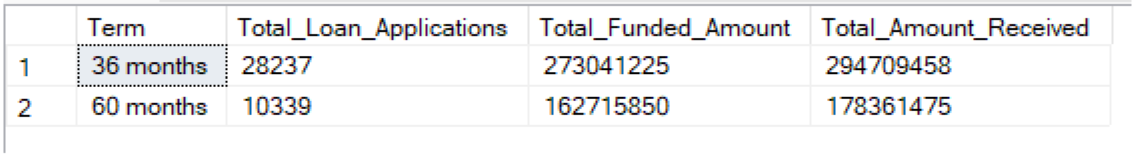
```
SELECT
	address_state AS State,
	COUNT(id) AS Total_Loan_Applications,
	SUM(loan_amount) AS Total_Funded_Amount,
	SUM(total_payment) AS Total_Amount_Received
FROM bank_loan_data
GROUP BY address_state
ORDER BY address_state
```



	State	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	AK	78	1031800	1108570
2	AL	432	4949225	5492272
3	AR	236	2529700	2777875
4	AZ	833	9206000	10041986
5	CA	6894	78484125	83901234
6	CO	770	8976000	9845810
7	CT	730	8435575	9357612
8	DC	214	2652350	2921854
9	DE	110	1138100	1269136
10	FL	2773	30046125	31601905
11	GA	1355	15480325	16728040
12	HI	170	1850525	2080184
13	IA	5	56450	64482
14	ID	6	59750	65329
15	IL	1486	17124225	18875941
16	IN	9	86225	85521
17	KS	260	2872325	3247394
18	KY	320	3504100	3792530
19	LA	426	4498900	5001160
20	MA	1310	15051000	16676279
21	MD	1027	11911400	12985170
22	ME	3	9200	10808
23	MI	685	7829900	8543660
24	MN	592	6302600	6750746
25	MO	660	7151175	7692732
26	MS	19	139125	149342
27	MT	79	829525	892047
28	NC	759	8787575	9534813
29	NE	5	31700	24542
30	NH	161	1917900	2101386
31	NJ	1822	21657475	23425159
32	NM	183	1916775	2084485
33	NV	482	5307375	5451443
34	NY	3701	42077050	46108181
35	OH	1188	12991375	14330148
36	OK	293	3365725	3712640

TERM

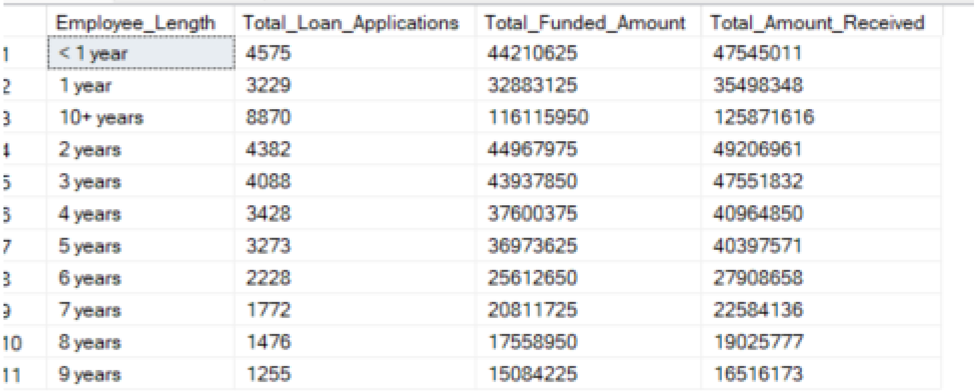
```
SELECT
        term AS Term,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM bank_loan_data
GROUP BY term
ORDER BY term
```



	Term	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	36 months	28237	273041225	294709458
2	60 months	10339	162715850	178361475

EMPLOYEE LENGTH

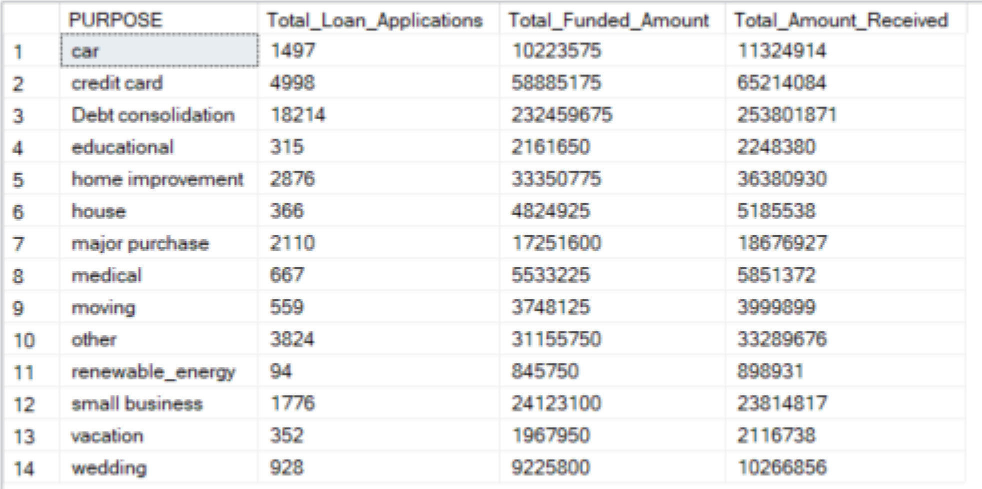
```
SELECT
        emp_length AS Employee_Length,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM bank_loan_data
GROUP BY emp_length
ORDER BY emp_length
```



	Employee_Length	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	< 1 year	4575	44210625	47545011
2	1 year	3229	32883125	35498348
3	10+ years	8870	116115950	125871616
4	2 years	4382	44967975	49206961
5	3 years	4088	43937850	47551832
6	4 years	3428	37600375	40964850
7	5 years	3273	36973625	40397571
8	6 years	2228	25612650	27908658
9	7 years	1772	20811725	22584136
10	8 years	1476	17558950	19025777
11	9 years	1255	15084225	16516173

PURPOSE

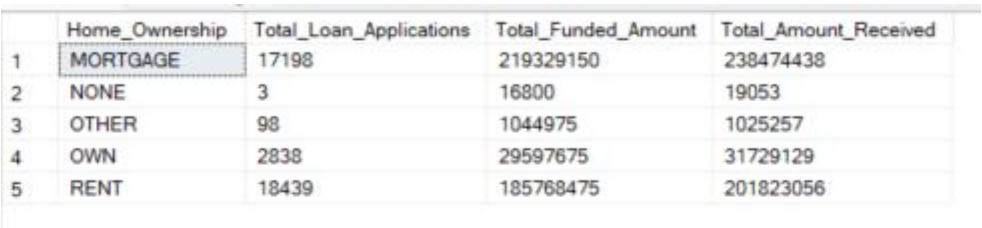
```
SELECT
        purpose AS PURPOSE,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM bank_loan_data
GROUP BY purpose
ORDER BY purpose
```



	PURPOSE	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
1	car	1497	10223575	11324914
2	credit card	4998	58885175	65214084
3	Debt consolidation	18214	232459675	253801871
4	educational	315	2161650	2248380
5	home improvement	2876	33350775	36380930
6	house	366	4824925	5185538
7	major purchase	2110	17251600	18676927
8	medical	667	5533225	5851372
9	moving	559	3748125	3999899
10	other	3824	31155750	33289676
11	renewable_energy	94	845750	898931
12	small business	1776	24123100	23814817
13	vacation	352	1967950	2116738
14	wedding	928	9225800	10266856

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 bank_loan_data
GROUP BY home_ownership
ORDER BY home_ownership
```



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

Multiple Filters have been applied on all dashboards. You can check the results for the filters as well by modifying the query and comparing results

i.e.

See results when we hit the Grade A in the filters for dashboards

```sql
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 bank_loan_data
WHERE grade = 'A'
GROUP BY purpose
ORDER BY purpose
```