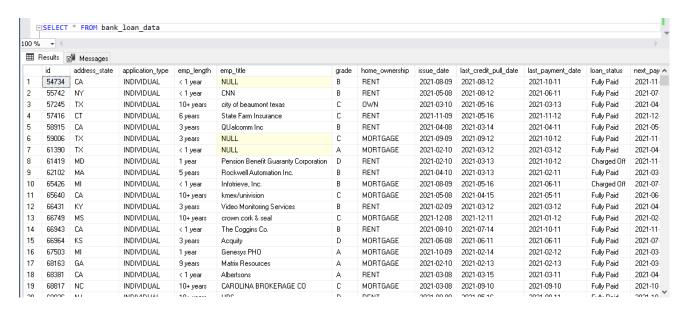
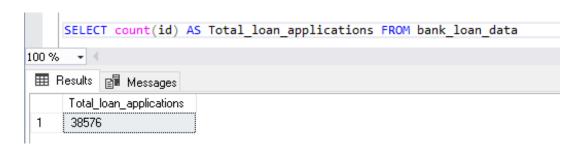
BANK LOAN DATABASE ANALYSIS – SQL Queries





```
SELECT count(id) AS MTD_Total_loan_applications FROM bank_loan_data
| WHERE MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021

100 % 
| Messages | MTD_Total_loan_applications | 1 4314
```

```
SELECT SUM(loan_amount) AS MTD_Total_Funded_Amt FROM bank_loan_data

WHERE MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021

100 % 

Results Messages

MTD_Total_Funded_Amt

1 53981425
```

```
SELECT SUM(loan_amount) AS PMTD_Total_Funded_Amt FROM bank_loan_data
     WHERE MONTH(issue date) = 11 AND YEAR(issue date) = 2021
100 % 🕶 🔻
 Ⅲ Results 📶 Messages
     PMTD_Total_Funded_Amt
     47754825
     SELECT SUM(total_payment) AS Total_amt_received FROM bank_loan_data
100 % 🕶 🔻
 ■ Results 🗐 Messages
      Total_amt_received
     473070933
   SELECT SUM(total_payment) AS MTD_Total_amt_received FROM bank_loan_data
     WHERE MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021
100 % 🕶 🔻
 Ⅲ Results 🗐 Messages
     Total_amt_received
     473070933
     SELECT AVG(int_rate) AS Avg_interest_rate FROM bank_loan_data
100 % 🕶 🔻
 ⊞ Results 📳 Messages
      Avg_interest_rate
      0.120488314172048
 1
```

```
SELECT AVG(int_rate) * 100 AS Avg_interest_rate_Percent FROM bank_loan_data
100 % 🕶 🔻
Ⅲ Results 📳 Messages
     Avg_interest_rate_Percent
    12.0488314172048
    SELECT ROUND(AVG(int_rate), 4) * 100 AS Avg_interest_rate FROM bank_loan_data
.00 % 🕶 🔻
Ⅲ Results 🗐 Messages
     Avg_interest_rate
    12.05
   SELECT ROUND(AVG(int_rate), 4) * 100 AS Avg_interest_rate FROM bank_loan_data
    WHERE MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021
100 % → ◀
 Ⅲ Results 📵 Messages
     Avg_interest_rate
    12.36
      SELECT ROUND(AVG(dti), 4) * 100 AS Avg_DTI FROM bank_loan_data
100 % 🔻 🔻
 III Results 📳 Messages
       Avg_DTI
       13.33
 1
```

```
SELECT ROUND(AVG(dti), 4) * 100 AS MTD_Avg_DTI FROM bank_loan_data

WHERE MONTH(issue_date) = 12 AND YEAR(issue_date) = 2021

100 % 

MED_Avg_DTI
1 13.67
```

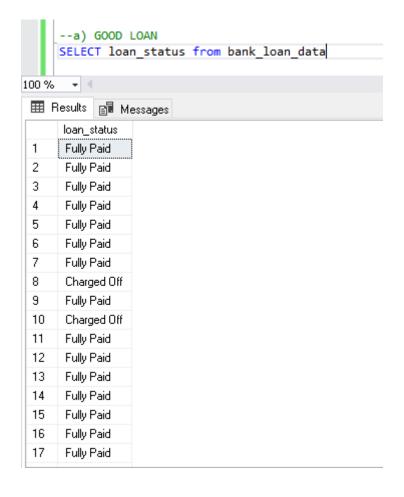
```
SELECT ROUND(AVG(dti), 4) * 100 AS PMTD_Avg_DTI FROM bank_loan_data

WHERE MONTH(issue_date) = 11 AND YEAR(issue_date) = 2021

100 % 

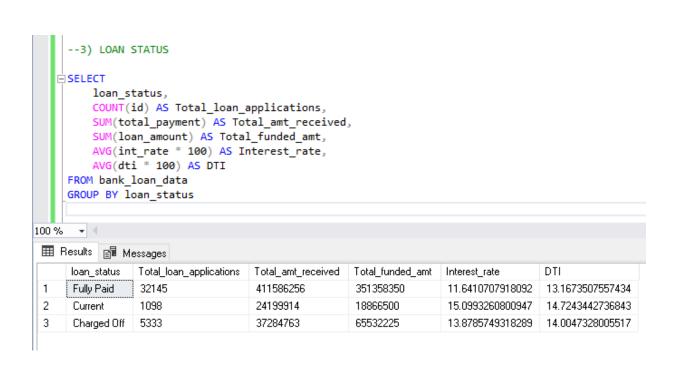
Results Messages

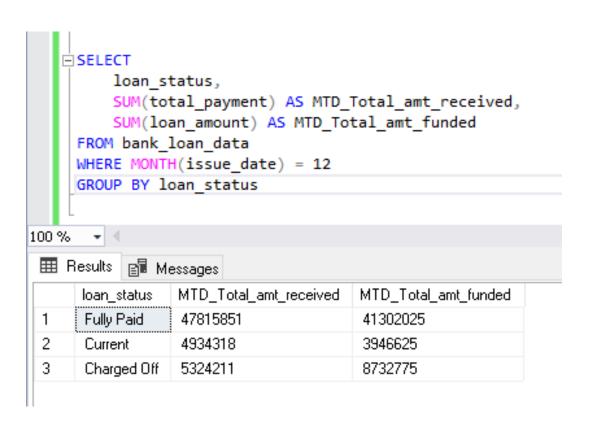
PMTD_Avg_DTI
1 13.3
```



```
SELECT
        (COUNT (CASE WHEN loan_status = 'Fully Paid' OR loan_status = 'Current' THEN id END)) * 100 /
        COUNT(id) AS Good_loan_percentage
    FROM bank_loan_data
100 %
Ⅲ Results 📳 Messages
    Good_loan_percentage
             SELECT count(id) AS Good_loan_applications FROM bank_loan_data
              WHERE loan_status IN ('Fully Paid', 'Current')
        100 % 🕝 🔻
         ■ Results 📵 Messages
               Good_loan_applications
               33243
            SELECT SUM(loan_amount) AS Good_loan_funded_amt FROM bank_loan_data
             WHERE loan_status IN ('Fully Paid', 'Current')
        100 % 🔻 🔻
         III Results 📳 Messages
              Good_loan_funded_amt
               370224850
            SELECT SUM(total payment) AS Good loan received amt FROM bank loan data
             WHERE loan_status IN ('Fully Paid', 'Current')
        100 % 🕝 🔻
         Ⅲ Results 🗐 Messages
              Good_loan_received_amt
             435786170
```

```
--b) BAD LOAN
    select count(id) AS Bad_loan_applications FROM bank_loan_data
     WHERE loan_status = 'Charged Off'
100 % 🕶 🖪
 III Results 📳 Messages
      Bad_loan_applications
 1
      5333
   SELECT
         (COUNT (CASE WHEN loan_status = 'Charged Off' THEN id END)) * 100 /
        COUNT(id) AS Bad_loan_percentage
     FROM bank_loan_data
100 % 💌 🔻
 III Results 📳 Messages
     Bad_loan_percentage
 1
     13
    select SUM(loan_amount) AS Bad_loan_funded_amt FROM bank_loan_data
     WHERE loan_status = 'Charged Off'
100 % 🕶 🖪
 Ⅲ Results 🗐 Messages
      Bad_loan_funded_amt
      65532225
   select SUM(total_payment) AS Bad_loan_received_amt FROM bank_loan_data
     WHERE loan_status = 'Charged Off'
100 % 🕶 🔻
 Ⅲ Results 🗐 Messages
      Bad_loan_received_amt
     37284763
```





```
--BANK LOAN DATA ANAYTICS DASHBOARD 2

□ SELECT

         MONTH(issue_date) AS Month_Number,
         DATENAME(MONTH, issue date) AS Month Name,
         count(id) AS Total loan applications,
          SUM(loan_amount) AS Total_funded_amt,
         SUM(total_payment) AS Total_received_amt
     FROM bank_loan_data
     GROUP BY MONTH(issue date), DATENAME(MONTH, issue date)
     ORDER BY MONTH(issue_date)
100 % 🕶 🕙
 Ⅲ Results 📳 Messages
      Month_Number
                    Month_Name
                                Total_loan_applications
                                                     Total_funded_amt
                                                                     Total_received_amt
      1
                                 2332
                                                     25031650
                                                                     27578836
 1
                    January
      2
 2
                    February
                                 2279
                                                     24647825
                                                                     27717745
 3
      3
                                 2627
                    March
                                                     28875700
                                                                     32264400
                                 2755
 4
      4
                                                     29800800
                                                                     32495533
                    April
```

May

June

July

August

October

September

November

December

```
□ SELECT

address_state,

COUNT(id) AS Total_loan_applications,

SUM(loan_amount) AS Total_funded_amt,

SUM(total_payment) AS Total_received_amt

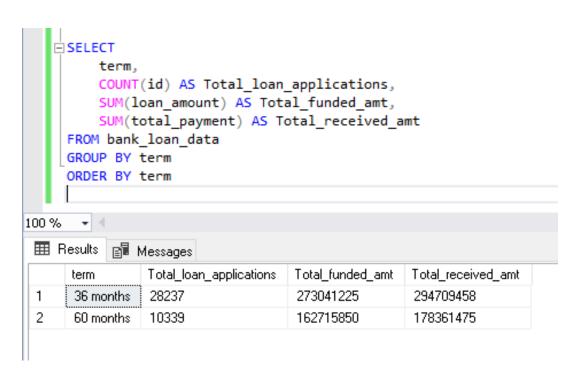
FROM bank_loan_data

GROUP BY address_state

ORDER BY address_state
```

100 % ▼ ◀ ■ Results ■ Messages

	address_state	Total_loan_applications	Total_funded_amt	Total_received_amt
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



```
emp_length,
          COUNT(id) AS Total loan applications,
          SUM(loan_amount) AS Total_funded_amt,
          SUM(total payment) AS Total received amt
     FROM bank loan data
     GROUP BY emp_length
     ORDER BY emp length
100 % 👻 🔻
 Ⅲ Results 📳 Messages
                  Total_loan_applications
                                        Total_funded_amt
                                                         Total_received_amt
      emp_length
                   4575
                                        44210625
                                                         47545011
 1
      < 1 year
 2
                   3229
                                        32883125
                                                         35498348
      1 year
 3
      10+ years
                   8870
                                        116115950
                                                         125871616
 4
      2 years
                                                         49206961
                   4382
                                        44967975
 5
      3 years
                   4088
                                        43937850
                                                         47551832
      4 years
                   3428
                                        37600375
                                                         40964850
 7
      5 years
                   3273
                                        36973625
                                                         40397571
 8
                   2228
                                                         27908658
      6 years
                                        25612650
 9
      7 years
                   1772
                                        20811725
                                                         22584136
 10
      8 years
                   1476
                                        17558950
                                                         19025777
      9 years
                   1255
                                        15084225
                                                         16516173
 11
```

```
purpose,
COUNT(id) AS Total_loan_applications,
SUM(loan_amount) AS Total_funded_amt,
SUM(total_payment) AS Total_received_amt
FROM bank_loan_data
GROUP BY purpose
ORDER BY count(id) DESC
```

100 % 🕶 🖣

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

```
SELECT
          home ownership,
          COUNT(id) AS Total_loan_applications,
          SUM(loan_amount) AS Total_funded_amt,
          SUM(total payment) AS Total received amt
     FROM bank loan data
     GROUP BY home_ownership
     ORDER BY count(id) DESC
100 % 🕶 🖪
🎹 Results 📲 Messages
      home_ownership
                     Total_loan_applications
                                         Total_funded_amt
                                                          Total_received_amt
      RENT
                     18439
                                          185768475
                                                          201823056
 1
 2
      MORTGAGE
                     17198
                                          219329150
                                                          238474438
 3
      OWN.
                     2838
                                          29597675
                                                          31729129
 4
                     98
                                                          1025257
      OTHER
                                          1044975
 5
                     3
                                                          19053
      NONE
                                          16800
```

```
home_ownership,
         COUNT(id) AS Total_loan_applications,
         SUM(loan amount) AS Total_funded_amt,
         SUM(total_payment) AS Total_received_amt
     FROM bank loan data
     WHERE grade='A' AND address state='CA'
     GROUP BY home ownership
     ORDER BY count(id) DESC
100 % 🔻 🔻
III Results 📳 Messages
                    Total_loan_applications
      home_ownership
                                        Total_funded_amt
                                                        Total_received_amt
      RENT
                     894
                                                        7680797
 1
                                        7359175
 2
      MORTGAGE
                     612
                                        6276375
                                                        6490097
      0WN
                     93
 3
                                        802100
                                                        844556
                     2
 4
      OTHER
                                        14000
                                                        15340
```

BANK LOAN DATABASE ANALYSIS - PowerBI DAX

- Total Loan Applications = COUNT(bank_loan_data[id])
- MTD Loan Applications = CALCULATE(TOTALMTD([Total Loan Applications], 'Date Table'[Date]))
- PMTD Loan Applications = CALCULATE([Total Loan Applications], DATESMTD(DATEADD('Date Table'[Date],-1,MONTH)))
- MoM Loan Applications = ([MTD Loan Applications] [PMTD Loan Applications])/[PMTD Loan Applications]
- Total Funded Amt = SUM(bank_loan_data[loan_amount])
- MTD Funded Amt = CALCULATE(TOTALMTD([Total Funded Amt], 'Date Table'[Date]))
- PMTD Total Funded Amt = CALCULATE([Total Funded Amt], DATESMTD(DATEADD('Date Table'[Date],-1,MONTH)))
- MoM Total Funded Amt = ([MTD Funded Amt] [PMTD Total Funded Amt])/[PMTD Total Funded Amt]
- Total Amt Received = SUM(bank_loan_data[total_payment])
- MTD Total Amt Received = CALCULATE(TOTALMTD([Total Amt Received], 'Date Table'[Date]))
- PMTD Total Amt Received = CALCULATE([Total Amt Received], DATESMTD(DATEADD('Date Table'[Date],-1,MONTH)))
- MoM Total Amt Received = ([MTD Total Amt Received] [PMTD Total Amt Received])/[PMTD Total Amt Received]
- Avg Intereset rate = AVERAGE(bank_loan_data[int_rate])
- MTD Avg Interest Rate = CALCULATE(TOTALMTD([Avg Interest rate], 'Date Table'[Date]))
- PMTD Avg Interest Rate = CALCULATE([Avg Interest rate], DATESMTD(DATEADD('Date Table'[Date],-1,MONTH))
- MoM Avg Interest Rate = ([MTD Avg Interest Rate] [PMTD Avg Interest Rate])/[PMTD Avg Interest Rate]
- Avg DTI = AVERAGE(bank_loan_data[dti])
- MTD Avg DTI = CALCULATE(TOTALMTD([Avg DTI], 'Date Table'[Date]))
- PMTD Avg DTI = CALCULATE([Avg DTI], DATESMTD(DATEADD('Date Table'[Date], -1, MONTH)))
- MoM Avg DTI = ([MTD Avg DTI] [PMTD Avg DTI])/[PMTD Avg DTI]

- Good Loan % = (CALCULATE([Total Loan Applications], bank_loan_data[Good Vs Bad Loan] =
 "Good Loan"))/[Total Loan Applications]
- Good Loan Applications = CALCULATE([Total Loan Applications], bank_loan_data[Good Vs Bad Loan] = "Good Loan")
- Good Loan Funded Amount = CALCULATE([Total Funded Amt], bank_loan_data[Good Vs Bad Loan]
 "Good Loan")
- Good Loan Received Amount = CALCULATE([Total Amt Received], bank_loan_data[Good Vs Bad Loan] = "Good Loan")
- Bad Loan % = (CALCULATE([Total Loan Applications], bank_loan_data[Good Vs Bad Loan] = "Bad Loan"))/[Total Loan Applications
- Bad Loan Applications = CALCULATE([Total Loan Applications], bank_loan_data[Good Vs Bad Loan]
 "Bad Loan")
- Bad Loan Funded Amount = CALCULATE([Total Funded Amt], bank_loan_data[Good Vs Bad Loan] = "Bad Loan")
- Bad Loan Received Amount = CALCULATE([Total Amt Received], bank_loan_data[Good Vs Bad Loan] = "Bad Loan")

Month number = MONTH('Date Table'[Date])