BANK LOAN ANALYSIS

1. View of the dataset.



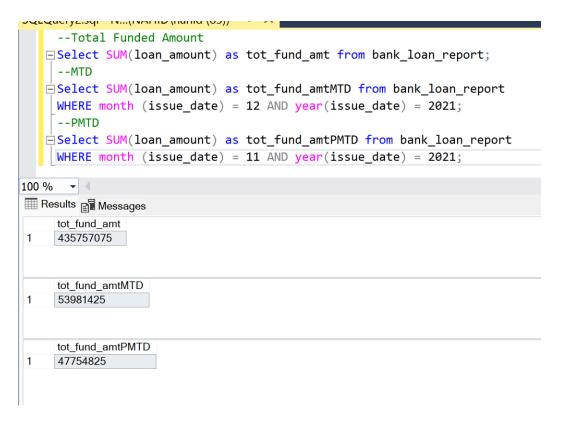
2. Total loan applications.

```
--Total loan appeals

□Select count(id) as total_appeals from bank_loan_report;

  🖮 - -MTD
    --Find out total appeals of the last month of
    -- the year by filtering WHERE
  Select count(id) as total appeals atDecember from bank loan report
    where MONTH(issue date) = 12 AND YEAR(issue date) = 2021;
    --find out last month's application
  Select count(id) as total_appeals_lastMonth from bank_loan_report
    where MONTH(issue date) = 11 AND YEAR(issue date) = 2021;
00 % -
Results Messages
    total_appeals
    38576
1
    total_appeals_atDecember
    4314
1
    total appeals lastMonth
    4035
```

3. Total funded amount



4. Total amount received

```
--Total Amount Receieved

□ Select SUM(total_payment) as tot_amt_rcv from bank_loan_report;

    --MTD (Using total payment column to find out received amount)
  Select SUM(total_payment) as tot_amt_rcvMTD from bank_loan_report
    WHERE month (issue_date) = 12 AND year(issue_date) = 2021;
    --PMTD
  WHERE month (issue_date) = 11 AND year(issue_date) = 2021;
100 % ▼ ◀
Results Messages
    tot_amt_rcv
    473070933
    tot_amt_rcvMTD
    58074380
    tot_amt_rcvPMTD
   50132030
```

5. AVG interest rate

```
QLQUCIYE.341 IV...(IVALID (Hallid (03))
   □ --Average Interest Rate
    --(Using int rate column use AVG *100 to find out received amount)

☐ Select AVG(int_rate) * 100 as tot_amt_rcv from bank_loan_report;

     --MTD (Round it in 4 digits)
   Select ROUND(Avg(int_rate), 4) *100 as avg_int_rtMTD from bank_loan_report
     WHERE month (issue_date) = 12 AND year(issue_date) = 2021;
     --PMTD
   Select ROUND(AVG(int_rate),4) * 100 as avg_int_rtPMTD from bank_loan_report
     WHERE month (issue_date) = 11 AND year(issue_date) = 2021;
100 %
Results Messages
     tot_amt_rcv
    12.0488314172048
     avg_int_rtMTD
    12.36
     avg_int_rtPMTD
    11.94
```

6. Average Dept-to-Income(dti) Ratio

```
□ --Average Dept-to-Income(dti) Ratio
    --(Using int rate column use AVG *100 to find out received amount)

☐Select AVG(dti) * 100 as avg dti from bank loan report;

     --MTD (Round it in 4 digits)
   □Select ROUND(Avg(dti), 4) *100 as avg_dtiMTD from bank_loan_report
     WHERE month (issue_date) = 12 AND year(issue_date) = 2021;
     --PMTD
   Select ROUND(AVG(int_rate),4) * 100 as avg_dtiPMTD from bank_loan_report
    WHERE month (issue_date) = 11 AND year(issue_date) = 2021;
100 %
Results Messages
     avg_dti
    13.3274331211432
     avg_dtiMTD
    13.67
     avg dtiPMTD
    11.94
```

7. Good loan / Bad loan

(Customer who **is fully paid** and currently paying = Good loan) Good loan percent, loan applications, funded amount, total receive amount.

(Customer who **charged off - not repaying** = Bad loan) Bad loan percent, loan applications, funded amount, total receive amount.

```
--good loan / Bad loan
    select loan_status from bank_loan_report
00 % -
Results Messages
    loan_status
25... Charged Off
25... Fully Paid
25... Current
25... Fully Paid
25... Fully Paid
  ⊡-- (Good Loan- using count function to count CASE when it is
    -- Fully paid or Current status then count it by id and multiply
    -- with 100 cause need to find the percentage -otherwise it will be 0)
   loan status = 'Current' THEN id end)* 100)
            / count (id) as Good_Loan from bank_loan_report;
    --Good loan applications
   □SELECT count (id) as loan_app from bank_loan_report
    WHERE loan_status = 'Fully Paid' or loan_status = 'Current'
    -- Good loan funded amount
   SELECT SUM(loan amount) as good Loans FAmt from bank loan report
    WHERE loan_status = 'Fully Paid' or loan_status = 'Current'
    -- Good Loan Total Received amount
   SELECT SUM(total_payment) as Loan_rcvAmt from bank_loan_report
    WHERE loan_status = 'Fully Paid' or loan_status = 'Current'
100 %
Results Messages
    Good_Loan
    86
    loan_app
    33243
    good_Loans_FAmt
    370224850
    Loan_rcvAmt
    435786170
```

```
\boxminus -- (Bad Loan- using count function to count CASE when it is
    -- Charged Off then count it by id and multiply
   -- with 100 cause need to find the percentage -otherwise it will be 0)
  = select (COUNT(case when loan_status = 'Charged Off'
             THEN id end)* 100)
            / count (id) as Bad_Loan from bank_loan_report;
    --Bad loan applications
  □SELECT count (id) as loan_app from bank_loan_report
    WHERE loan_status = 'Charged Off'
  □SELECT SUM(loan amount) as bad Loans FAmt from bank loan report
    WHERE loan_status = 'Charged Off'
    -- Bad Loan Total Received amount
  □SELECT SUM(total_payment) as Loan_rcvAmt from bank_loan_report
   WHERE loan_status = 'Charged Off'
00 % ▼ ◀
Results Messages
    Bad_Loan
   13
    loan_app
   5333
    bad_Loans_FAmt
   65532225
    Loan_rcvAmt
   37284763
    -- Togather
   ☐ select (COUNT(case when loan_status = 'Fully Paid'
             loan_status = 'Current' THEN id end)* 100)/ count (id) as Good_Loan,
             (select COUNT(case when loan status = 'Charged Off'
              THEN id end)* 100)/ count (id) as Bad_Loan
             from bank_loan_report;
L00 % → ◀
Results Messages
    Good_Loan Bad_Loan
    86
             13
```

8. Loan Status Grid View (MTD)

```
--Loan Status Grid View

□ Select loan_status,

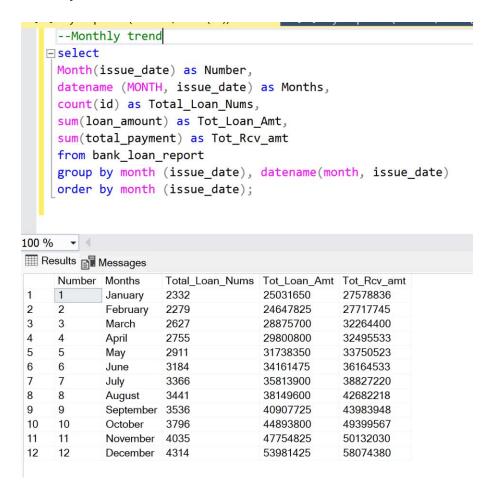
    count (id) as TotalLoanNums,
    sum (loan amount) as Total Funded,
    Avg (int_rate * 100) as Interest_Rate,
    avg (dti * 100) as DeptToIncome,
    Sum (total payment) as Total Payment
    from bank loan report group by loan status;
.00 %
Results Messages
    Total_Payment
                                                     DeptToIncome
1
    Fully Paid
              32145
                           351358350
                                     11.6410707918092 13.1673507557434 411586256
2
    Current
               1098
                           18866500
                                      15.0993260800947 14.7243442736843 24199914
    Charged Off 5333
                           65532225
                                      13.8785749318289 14.0047328005517 37284763
SQLQuerys.sqr - 14....(14Ar IID/Hariid (00)) - A SQLQuerys.sqr - 14....(14Ar IID/Hariid (10
    --MTD Loan Status Grid View

    □ Select loan status,

     sum (loan amount) as MTDTotal Funded,
     Sum (total_payment) as MTDTotal_Payment
     from bank_loan_report Where MONTH(issue_date) = 12
     group by loan_status;
100 % ▼ 4
Results Messages
     loan_status MTDTotal_Funded MTDTotal_Payment
    Fully Paid 41302025 47815851
               3946625
                             4934318
2
     Current
     Charged Off 8732775
                             5324211
```

Charts

9. Monthly trend of issues date



10. Regional analysis by state

```
--Regional analysis
   ⊟select
     address_state as State,
     count(id) as Total Loan Nums,
     sum(loan_amount) as Tot_Loan_Amt,
     sum(total_payment) as Tot Rcv_amt
     from bank_loan_report
     group by address_state
     order by address state; --(sum(loan amount) DESC, to find out max loan amt)
100 %
Results Messages
      State Total_Loan_Nums Tot_Loan_Amt Tot_Rcv_amt
           78
                           1031800
                                        1108570
2
     AL
           432
                           4949225
                                        5492272
3
           236
     AR
                           2529700
                                        2777875
      ΑZ
           833
                           9206000
                                        10041986
5
      CA
           6894
                           78484125
                                        83901234
6
      CO
           770
                           8976000
                                        9845810
7
      СТ
           730
                           8435575
                                        9357612
8
     DC
           214
                           2652350
                                        2921854
9
     DE
           110
                           1138100
                                        1269136
10
     FL
           2773
                           30046125
                                        31601905
           1355
11
     GA
                           15480325
                                        16728040
12
     Ш
           170
                           1850525
                                        2080184
                           56450
13
     IA
           5
                                        64482
14
                           59750
                                        65329
     ID
           6
15
                                        18875941
     IL
           1486
                           17124225
16
     INI
                           86225
                                        Ջ5521
```

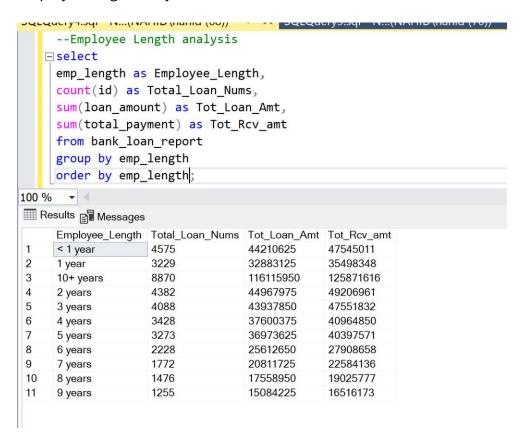
11. Loan term analysis

```
--Loan Term analysis

    select

    term as Term,
    count(id) as Total_Loan_Nums,
    sum(loan_amount) as Tot_Loan_Amt,
    sum(total_payment) as Tot_Rcv_amt
    from bank loan report
    group by term
    order by term;
100 % ▼ ◀
Results Messages
    Term
             36 months 28237
                          273041225
                                     294709458
2
                          162715850
                                     178361475
    60 months 10339
```

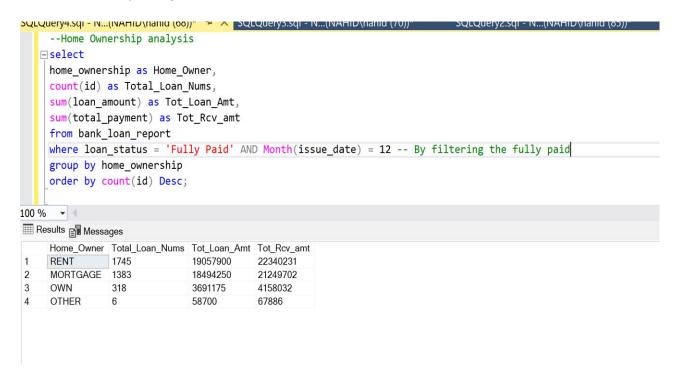
12. Employee length analysis



13. Loan purpose breakdown

```
--Loan Purpose analysis
    ∃select
      purpose as Loan_Purpose,
      count(id) as Total Loan Nums,
      sum(loan_amount) as Tot_Loan_Amt,
     sum(total_payment) as Tot_Rcv_amt
      from bank loan report
      group by purpose
     order by count(id) Desc;
      -- here we see max loan purpose is debt consolidation.
100 %
Results Messages
      Loan Purpose
                      Total Loan Nums Tot Loan Amt Tot Rcv amt
1
     Debt consolidation 18214
                                      232459675
                                                   253801871
     credit card
                      4998
                                      58885175
                                                   65214084
2
3
     other
                      3824
                                      31155750
                                                   33289676
     home improvement 2876
                                      33350775
                                                   36380930
4
5
                      2110
                                      17251600
                                                   18676927
     major purchase
6
      small business
                      1776
                                      24123100
                                                   23814817
7
                      1497
                                                   11324914
                                      10223575
     wedding
8
                      928
                                      9225800
                                                   10266856
     medical
                      667
                                      5533225
                                                   5851372
10
                      559
                                                   3999899
     moving
                                      3748125
11
                      366
                                      4824925
                                                   5185538
     house
12
      vacation
                      352
                                      1967950
                                                   2116738
13
     educational
                      315
                                      2161650
                                                   2248380
     renewable_energy
14
                                      845750
                                                   898931
                      94
```

14. Home ownership analysis.



```
--Home Ownership analysis
   ∃select
     home_ownership as Home_Owner,
     count(id) as Total Loan Nums,
     sum(loan_amount) as Tot_Loan_Amt,
     sum(total_payment) as Tot_Rcv_amt
     from bank_loan_report
     group by home_ownership
     order by count(id) Desc;
100 % ▼ ◀
Results Messages
     Home_Owner Total_Loan_Nums Tot_Loan_Amt Tot_Rcv_amt
                               185768475
     RENT
               18439
                                           201823056
     MORTGAGE 17198
2
                               219329150
                                           238474438
3
     OWN
                2838
                               29597675
                                           31729129
4
     OTHER
                98
                               1044975
                                           1025257
5
     NONE
                3
                               16800
                                           19053
```