Bank Loan Analysis Report

SQL Queries

```
---Loading Dataset---
SELECT * FROM bank_loan_data
```

	id	address_state	application_type	emp_length	emp_title	grade	home_ownership	issue_date	last_credit_pull_date	last_payment_dat ∧
1	54734	CA	INDIVIDUAL	< 1 year	NULL	B	RENT	2021-08-09	2021-08-12	2021-10-11
2	55742	NY	INDIVIDUAL	< 1 year	CNN	B	RENT	2021-05-08	2021-08-12	2021-06-11
3	57245	TX	INDIVIDUAL	10+ years	city of beaumont texas	C	OWN	2021-03-10	2021-05-16	2021-03-13
4	57416	CT	INDIVIDUAL	6 years	State Farm Insurance	C	RENT	2021-11-09	2021-05-16	2021-11-12
5	58915	CA	INDIVIDUAL	3 years	QUalcomm Inc	B	RENT	2021-04-08	2021-03-14	2021-04-11
6	59006	TX	INDIVIDUAL	3 years	NULL	C	MORTGAGE	2021-09-09	2021-09-12	2021-10-12
7	61390	TX	INDIVIDUAL	< 1 year	NULL	A	MORTGAGE	2021-02-10	2021-03-12	2021-03-12
8	61419	MD	INDIVIDUAL	1 year	Pension Benefit Guaranty Corporation	D	RENT	2021-02-10	2021-03-13	2021-10-12
9	62102	MA	INDIVIDUAL	5 years	Rockwell Automation Inc.	B	RENT	2021-04-10	2021-03-13	2021-02-11
10	65426	MI	INDIVIDUAL	< 1 year	Infotrieve, Inc.	B	MORTGAGE	2021-08-09	2021-05-16	2021-06-11
11	65640	CA	INDIVIDUAL	10+ years	kmex/univision	C	MORTGAGE	2021-05-08	2021-04-15	2021-05-11 ∨

```
---Total Loan Application---
SELECT COUNT(id) as Total_Loan_Applications FROM bank_loan_data
```

	Total_Loan_Applications
1	38576

```
--- 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
```

	MTD_Total_Loan_Applications
1	4314

```
---PMTD Loan Application ---
SELECT COUNT(id) as PMTD_Total_Loan_Applications FROM bank_loan_data
WHERE MONTH(issue_date)=11 AND YEAR(issue_date)=2021
```

	PMTD_Total_Loan_Applications
1	4035

```
---2. Total Funded Loan Amount ---
SELECT SUM(loan_amount)as Total_Funded_Amount FROM bank_loan_data
```

	Total_Funded_Amount
1	435757075

```
--- MTD Loan Amount ---
SELECT SUM(loan_amount)as MTD_Total_Funded_Amount FROM bank_loan_data
WHERE MONTH(issue_date)=12 AND YEAR(issue_date)=2021
```

	MTD_Total_Funded_Amount
1	53981425

```
--- PMTD Loan Amount ---
SELECT SUM(loan_amount)as PMTD_Total_Funded_Amount FROM bank_loan_data
WHERE MONTH(issue_date)=11 AND YEAR(issue_date)=2021
```

	PMTD_Total_Funded_Amount
1	47754825

```
---3. Total Amount Recieved ---
SELECT SUM(total_payment) AS Total_Amount_Recieved FROM bank_loan_data
```

	Total_Amount_Recieved
1	473070933

```
--- MTD Amount Recieved ---
SELECT SUM(total_payment) AS Total_Amount_Recieved FROM bank_loan_data
WHERE MONTH(issue_date)=12
```

	Total_Amount_Recieved
1	58074380

```
--- PMTD Amount Recieved ---
 SELECT SUM(total_payment) AS Total_Amount_Recieved FROM bank_loan_data
WHERE MONTH(issue_date)=11
```

	Total_Amount_Recieved
1	50132030

```
---4. Average Interest Rate---
SELECT ROUND(AVG(int_rate),4)*100 AS Avg_Interest_Rate FROM bank_loan_data
```

	Avg_Interest_Rate
1	12.05

```
---MTD Avg Interest Rate---
SELECT ROUND(AVG(int_rate),4)*100 AS MTD_Avg_Interest_Rate FROM bank_loan_data
WHERE MONTH(issue_date)=12
```

	MTD_Avg_Interest_Rate
1	12.36

```
---PMTD Avg Interest Rate---
SELECT ROUND(AVG(int_rate),4)*100 AS PMTD_Avg_Interest_Rate FROM bank_loan_data
WHERE MONTH(issue_date)=11
```

	PMTD_Avg_Interest_Rate
1	11.94

---5. Average Debt To Income ratio---
```sql
SELECT ROUND(AVG(dti),4)*100 AS Average_Dti_rate FROM bank_loan_data
```

	Average_Dti_rate
1	13.33

--- MTD Avg DTI---
```sql
SELECT ROUND(AVG(dti),4)*100 AS MTD_Average_Dtit_Rate FROM bank_loan_data
WHERE MONTH(issue_date)=12
```

	MTD_Average_Dtit_Rate
1	13.67

---PMTD Avg DTI---
```sql
SELECT ROUND(AVG(dti),4)*100 AS PMTD_Average_Dti_Rate FROM bank_loan_data
WHERE MONTH(issue_date)=11
```

	PMTD_Average_Dti_Rate
1	13.3

---GOOD LOAN---
---Loan Application Percentage--
```sql
SELECT
        (COUNT(CASE WHEN loan_status= 'Fully Paid' OR loan_status= 'Current' THEN id END) * 100)
        /
        COUNT(id) AS Good_loan_percentade
FROM bank_loan_data
```

	Good_loan_percentade
1	86

---Loan Application---
```sql
SELECT COUNT(id) as Good_loan_count FROM bank_loan_data
WHERE loan_status='Fully Paid' OR loan_status='Current'
```

	Good_loan_count
1	33243

---Funded Amount---
```sql
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
1	370224850

```
---Recieved Amount---
SELECT SUM(total_payment) as Good_loan_Recieved_Amount FROM bank_loan_data
WHERE loan_status='Fully Paid' OR loan_status='Current'
```

	Good_loan_Recieved_Amount
1	435786170

```
---BAD LOAN---
---Loan Applicatin Percentage---
SELECT
      (COUNT(CASE WHEN loan_status= 'Charged Off' THEN id END) * 100)
      /
      COUNT(id) AS Bad_loan_percentade
FROM bank_loan_data
```

	Bad_loan_percentade
1	13

```
---Loan Application---
SELECT COUNT(id) as Bad_loan_count FROM bank_loan_data
WHERE loan_status='Charged Off'
```

	Bad_loan_count
1	5333

```
---Funded Amount---
SELECT SUM(loan_amount) as Bad_loan_Funded_Amount FROM bank_loan_data
WHERE loan_status='Charged Off'
```

	Bad_loan_Funded_Amount
1	65532225

```
---Recieved Amount---
SELECT SUM(total_payment) as Bad_loan_Recieved_Amount FROM bank_loan_data
WHERE loan_status='Charged Off'
```

	Bad_loan_Recieved_Amount
1	37284763

```
---LOAN STATUS---
SELECT
      loan_status,
      COUNT(id) AS Total_Loan_Application,
      SUM(total_payment) AS Total_Amount_Recieved,
      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	Total_Loan_Application	Total_Amount_Recieved	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

```sql
SELECT
    loan_status,
    SUM(total_payment) AS MTD_Total_Amount_Recieved,
    SUM(loan_amount) as MTD_Total_Funded_Amount
FROM bank_loan_data
WHERE MONTH(issue_date)=12
GROUP BY loan_status
```

	loan_status	MTD_Total_Amount_Recieved	MTD_Total_Funded_Amount
1	Fully Paid	47815851	41302025
2	Charged Off	5324211	8732775
3	Current	4934318	3946625

```sql
---MONTHLY TREND---
SELECT
    MONTH(issue_date) AS SNo,
    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_Recieved
FROM bank_loan_data
GROUP BY DATENAME(MONTH, issue_date), MONTH(issue_date)
ORDER BY MONTH(issue_date)
```

	SNo	Month_Name	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Recieved	
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	

```sql
---Regional Analysis---
SELECT
    address_state,
    COUNT(id) AS Total_Loan_Applications,
    SUM(loan_amount) AS Total_Funded_Amount,
    SUM(total_payment) AS Total_Amount_Recieved
FROM bank_loan_data
GROUP BY address_state
ORDER BY SUM(loan_amount) DESC
```

	address_state	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Recieved	
1	CA	6894	78484125	83901234	
2	NY	3701	42077050	46108181	
3	TX	2664	31236650	34392715	
4	FL	2773	30046125	31601905	
5	NJ	1822	21657475	23425159	
6	IL	1486	17124225	18875941	
7	VA	1375	15982650	17711443	
8	PA	1482	15826525	17462908	
9	GA	1355	15480325	16728040	
10	MA	1310	15051000	16676279	
11	OH	1188	12991375	14330148	

```sql
---Loan Term Analysis---
SELECT
      term,
      COUNT(id) AS Total_Loan_Applications,
      SUM(loan_amount) AS Total_Funded_Amount,
      SUM(total_payment) AS Total_Amount_Recieved
FROM bank_loan_data
GROUP BY term
ORDER BY term DESC
```

	term	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Recieved
1	60 months	10339	162715850	178361475
2	36 months	28237	273041225	294709458

```sql
---Employee Length Analysis---
SELECT
      emp_length,
      COUNT(id) AS Total_Loan_Applications,
      SUM(loan_amount) AS Total_Funded_Amount,
      SUM(total_payment) AS Total_Amount_Recieved
FROM bank_loan_data
GROUP BY emp_length
ORDER BY COUNT(id) DESC
```

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

```sql
---Loan Purpose Analysis---
SELECT
      purpose,
      COUNT(id) AS Total_Loan_Applications,
      SUM(loan_amount) AS Total_Funded_Amount,
      SUM(total_payment) AS Total_Amount_Recieved
FROM bank_loan_data
GROUP BY purpose
ORDER BY COUNT(purpose) DESC
```

	purpose	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Recieved
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

```sql
---Home Ownership Analysis---
SELECT
      home_ownership,
      COUNT(id) AS Total_Loan_Applications,
      SUM(loan_amount) AS Total_Funded_Amount,
      SUM(total_payment) AS Total_Amount_Recieved
FROM bank_loan_data
GROUP BY home_ownership
ORDER BY COUNT(home_ownership) DESC
```

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