



SQL REPORT FOR FINANCIAL LOAN

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Part 1- Total Amount of Loan

1a) Total Amount of Loan

```
Select SUM(loan_amount) as Total_Amount_of_Loan
from [Bank Loan].[dbo].[financial_loan]
```

Total_Amount_of_Loan
435757075

1b) Total Amount of Loan – Month-To-Date

```
Select SUM(loan_amount) as Total_Amount_of_Loan_MTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_of_Loan_MTD
53981425

1c) Total Amount of Loan- Previous Month-To-Date

```
Select SUM(loan_amount) as Total_Amount_of_Loan_PMTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_of_Loan_PMTD
47754825

1d) Total Amount of Loan- % Current Month-To-Date and Previous Month-To-Date

```
WITH current_cte AS (
    SELECT
        SUM(loan_amount) AS Total_Amount_of_Loan_MTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
),
previous_cte AS (
    SELECT
        SUM(loan_amount) AS Total_Amount_of_Loan_PMTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
)
SELECT
    current_cte.Total_Amount_of_Loan_MTD,
    previous_cte.Total_Amount_of_Loan_PMTD,
    (CAST((current_cte.Total_Amount_of_Loan_MTD - previous_cte.Total_Amount_of_Loan_PMTD) AS DECIMAL(18,2)) / previous_cte.Total_Amount_of_Loan_PMTD) * 100 AS MoM_growth_percentage
FROM
    current_cte, previous_cte
```

Total_Amount_of_Loan_MTD	Total_Amount_of_Loan_PMTD	MoM_growth_percentage
53981425	47754825	13.0386824786800

Part 2 – Total Numbers of Loans

2a) Total Number of Loans

```
Select Count(id) as Total_Number_of_Loans|
from [Bank Loan].[dbo].[financial_loan]
```

Total_Number_of_Loans
38576

2b) Total Number of Loans – MTD

```
Select Count(id) as Total_Number_of_Loans_MTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Number_of_Loans
38576

2c) Total Number of Loans- PMTD

```
Select Count(id) as Total_Number_of_Loans_PMTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date) - 1) AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Number_of_Loans_PMTD
4035

2d) Total Number of Loan- % Current Month To Date and Previous Month-To- Date

```
-- 2d) Total Number of Loans - % Current Month-To-Date and Previous Month-To-Date

WITH current_cte AS (
    SELECT
        Count(id) AS Total_Number_of_Loans_MTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
),
previous_cte AS (
    SELECT
        Count(id) AS Total_Number_of_Loans_PMTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
)
SELECT
    current_cte.Total_Number_of_Loans_MTD,
    previous_cte.Total_Number_of_Loans_PMTD,
    (CAST((current_cte.Total_Number_of_Loans_MTD - previous_cte.Total_Number_of_Loans_PMTD) AS DECIMAL(18,2)) / previous_cte.Total_Number_of_Loans_PMTD) * 100 AS MoM_growth_percentage
FROM
    current_cte, previous_cte
```

Total_Number_of_Loans_MTD	Total_Number_of_Loans_PMTD	MoM_growth_percentage
4314	4035	6.9144981412600

Part 3 – Total Amount of Received

3a) Total Amount Received

```
select SUM(total_payment) as Total_Amount_Recieved from [Bank Loan].[dbo].[financial_loan]
```

Total_Amount_Recieved
473070933

3b) Total Amount Received- MTD

```
select SUM(total_payment) as Total_Amount_Recieved_MTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_Recieved_MTD
58074380

3c) Total Amount Received- PMTD

```
select SUM(total_payment) as Total_Amount_Recieved_MTD
from [Bank Loan].[dbo].[financial_loan]
where MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 AS max_month from [Bank Loan].[dbo].[financial_loan])
and YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) AS max_year from [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_Recieved_MTD
50132030

3d) Total Amount Received- % Current Month To Date and Previous Month-To-Date

```
WITH current_cte AS (
    SELECT
        SUM(total_payment) as Total_Amount_Recieved_MTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
),
previous_cte AS (
    SELECT
        SUM(total_payment) as Total_Amount_Recieved_PMTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
)
SELECT
    current_cte.Total_Amount_Recieved_MTD,
    previous_cte.Total_Amount_Recieved_PMTD,
    (CAST((current_cte.Total_Amount_Recieved_MTD - previous_cte.Total_Amount_Recieved_PMTD) AS DECIMAL(18,2)) / previous_cte.Total_Amount_Recieved_PMTD * 100 AS MoM_growth_percentage
FROM
    current_cte, previous_cte
```

Total_Amount_Recieved_MTD	Total_Amount_Recieved_PMTD	MoM_growth_percentage
58074380	50132030	15.8428653298100

Part 4 – Total Profit

4a) Total Profit Earned

```
SELECT
    SUM(total_payment) as Total_Amount_Received,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) - SUM(loan_amount) as Profit,
    CAST(((SUM(total_payment) - SUM(loan_amount)) * 100.0 / NULLIF(SUM(total_payment), 0)) AS decimal(18,2)) as Profit_percent
FROM
    [Bank Loan].[dbo].[financial_loan]
```

Total_Amount_Received	Total_Amount_of_Loan	Profit	Profit_percent
473070933	435757075	37313858	7.89

4b) Total Profit Earned- MTD

```
SELECT
    SUM(total_payment) as Total_Amount_Received,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) - SUM(loan_amount) as Profit,
    CAST(((SUM(total_payment) - SUM(loan_amount)) * 100.0 / NULLIF(SUM(total_payment), 0)) AS decimal(18,2)) as Profit_percent
FROM
    [Bank Loan].[dbo].[financial_loan]
WHERE
    MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
    AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_Received	Total_Amount_of_Loan	Profit	Profit_percent
58074380	53981425	4092955	7.05

4c) Total Profit Earned- PMTD

```
SELECT
    SUM(total_payment) as Total_Amount_Received,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) - SUM(loan_amount) as Profit,
    CAST(((SUM(total_payment) - SUM(loan_amount)) * 100.0 / NULLIF(SUM(total_payment), 0)) AS decimal(18,2)) as Profit_percent
FROM
    [Bank Loan].[dbo].[financial_loan]
WHERE
    MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 FROM [Bank Loan].[dbo].[financial_loan])
    AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
```

Total_Amount_Received	Total_Amount_of_Loan	Profit	Profit_percent
50132030	47754825	2377205	4.74

4d) Total Profit Earned- % Current Month To Date and Previous Month-To-Date

```
WITH current_cte AS (
    SELECT
        SUM(total_payment) as Total_Amount_Received_MTD,
        SUM(loan_amount) as Total_Amount_of_Loan_MTD,
        SUM(total_payment) - SUM(loan_amount) as Profit_MTD,
        CAST(((SUM(total_payment) - SUM(loan_amount)) * 100.0 / NULLIF(SUM(total_payment), 0)) AS decimal(18,2)) as Profit_percent_MTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
),
previous_cte AS (
    SELECT
        SUM(total_payment) as Total_Amount_Received_PMTD,
        SUM(loan_amount) as Total_Amount_of_Loan_PMTD,
        SUM(total_payment) - SUM(loan_amount) as Profit_PMTD,
        CAST(((SUM(total_payment) - SUM(loan_amount)) * 100.0 / NULLIF(SUM(total_payment), 0)) AS decimal(18,2)) as Profit_percent_PMTD
    FROM
        [Bank Loan].[dbo].[financial_loan]
    WHERE
        MONTH(issue_date) = (SELECT MAX(MONTH(issue_date)) - 1 FROM [Bank Loan].[dbo].[financial_loan])
        AND YEAR(issue_date) = (SELECT MAX(YEAR(issue_date)) FROM [Bank Loan].[dbo].[financial_loan])
)
SELECT
    current_cte.Profit_percent_MTD,
    previous_cte.Profit_percent_PMTD,
    (CAST((current_cte.Profit_percent_MTD - previous_cte.Profit_percent_PMTD) AS DECIMAL(18,2)) / previous_cte.Profit_percent_PMTD) * 100 AS MoM_growth_percentage
FROM
    current_cte, previous_cte
```

Profit_percent_MTD	Profit_percent_PMTD	MoM_growth_percentage
7.05	4.74	48.7341772151898734

Part 5 – Group by Loan Status and Sorting by Highest Profitability

```
SELECT loan_status,
       Count(id) as Total_Number_of_Loans,
       AVG(int_rate) * 100 as Avg_Interest_rate,
       AVG(dti) as AVG_Debt_to_Income,
       SUM(loan_amount) as Total_Amount_of_Loan,
       SUM(total_payment) as Total_Amount_Recieved,
       (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by loan_status
order by Profit_Percent DESC
```

	loan_status	Total_Number_of_Loans	Avg_Interest_rate	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	Current	1098	15.0993260800947	0.147243442736843	18866500	24199914	28.2692285267538
2	Fully Paid	32145	11.6410707918092	0.131673507557434	351358350	411586256	17.141447186327
3	Charged Off	5333	13.8785749318289	0.140047328005517	65532225	37284763	-43.1046893341406

Part 6 – Group by State and Sorting by Highest Profitability

```
SELECT address_state,
       Count(id) as Total_Number_of_Loans,
       AVG(int_rate) * 100 as Avg_Interest_rate,
       AVG(annual_income) as AVG_anunal_income,
       AVG(dti) as AVG_Debt_to_Income,
       SUM(loan_amount) as Total_Amount_of_Loan,
       SUM(total_payment) as Total_Amount_Recieved,
       (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by address_state
order by Total_Number_of_Loans DESC
```

	address_state	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	CA	6894	12.1482245661351	72558.9349192062	0.128442776360964	78484125	83901234	6.90217161750864
2	NY	3701	12.1143474885014	72159.5100152408	0.122124615003344	42077050	46108181	9.58035556199876
3	FL	2773	11.9781175821085	65331.9535898621	0.135271150399269	30046125	31601905	5.17797220107418
4	TX	2664	12.0470308084824	74066.1937750739	0.139467004481928	31236650	34392715	10.1037243110257
5	NJ	1822	12.2350768532714	75149.5689757564	0.128259165835792	21657475	23425159	8.16200411174433
6	IL	1486	12.0541386346397	69911.6661878049	0.13311103642159	17124225	18875941	10.2294614792786
7	PA	1482	11.6906073057519	63097.6200183451	0.138422334650018	15826525	17462908	10.339496509815
8	VA	1375	12.2175127300349	74341.2302713068	0.134691200075428	15982650	17711443	10.8166855934404
9	GA	1355	11.9620443064018	69585.3822503459	0.139885534914101	15480325	16728040	8.06000520014922
10	MA	1310	11.8714733103304	73542.9165970897	0.126445190739135	15051000	16676279	10.7984785064115
11	OH	1188	12.0244949858523	60785.2442359796	0.145976262629916	12991375	14330148	10.3050908776015
12	MD	1027	12.4915774088233	78314.1016290622	0.129232813977113	11911400	12985170	9.01464143593532
13	AZ	833	12.2431452923856	68087.7397865396	0.131855101966649	9206000	10041986	9.08088203345644
14	WA	805	12.2630931691538	66887.2772709627	0.130510062309722	8855525	9531739	7.63606900776634
15	CO	770	11.8150259902725	68102.7697544643	0.136089610557265	8976000	9845810	9.69039661319073
16	NC	759	12.1220685306038	65702.7793817935	0.137805665160342	8787575	9534813	8.50334705535941
17	CT	730	11.9100822278694	76426.8459305437	0.128976027420738	8435575	9357612	10.9303396626786
18	MI	685	12.006613162421	66900.5228900548	0.134616204317197	7829900	8543660	9.11582523403875
19	MO	660	11.7235757743545	61738.6387517756	0.144716969670756	7151175	7692732	7.5729726564516
20	MN	592	11.6876351678543	60902.0092872413	0.135915540942586	6302600	6750746	7.11049408180751
21	NV	482	12.5403734859218	69878.3937775545	0.135446888055899	5307375	5451443	2.71448691679032
22	SC	464	11.8348275929497	63218.0796571929	0.137935344875963	5080475	5462458	7.51864737057067
23	WI	446	12.0678475544258	63445.0984532651	0.134769954871803	5070450	5485161	8.17897819720143
24	OR	436	11.9970412685647	58386.4221616973	0.137515825713683	4720150	4966903	5.22765166361239
25	AL	432	11.8594444865637	63085.6908817998	0.141753009192245	4949225	5492272	10.9723643600766
26	LA	426	11.7322535345882	74543.005813527	0.142008685138505	4498900	5001160	11.1640623263464
27	KY	320	11.8975624837913	61106.0577453613	0.140750312515183	3504100	3792530	8.23121486258954
28	OK	293	11.8953242363987	62369.4476389185	0.141418088859252	3365725	3712649	10.3075563214463

29	KS	260	11.818615434548	63501.7810772236	0.141783461830794	2872325	3247394	13.0580279042239
30	UT	252	11.9757143026661	66146.6710999504	0.132625397023124	2849225	2952412	3.62158130719757
31	AR	236	11.7557203570791	60025.8967078257	0.152132627384548	2529700	2777875	9.81045183223307
32	DC	214	12.0467289585934	77772.5047276577	0.125146262009332	2652350	2921854	10.1609516089506
33	RI	196	11.8651530743406	69035.6163205517	0.127241836988476	1883025	2001774	6.30628908272593
34	NM	183	11.6613114893925	84666.1689719945	0.138800546563806	1916775	2084485	8.7495924143418
35	HI	170	12.5938235793044	63018.0790326287	0.140615882447866	1850525	2080184	12.4104781075641
36	WV	167	11.7252694476329	56216.7362930389	0.14883892215833	1830525	1991936	8.81774354351893
37	NH	161	11.7891304727112	69741.0895526009	0.14146335433405	1917900	2101386	9.56702643516346
38	DE	110	11.9956363737583	66564.5454545455	0.141715454536659	1138100	1269136	11.5135752570073
39	WY	79	12.5240506250647	58220.5580003956	0.143459493429931	890750	1046050	17.4347460005613
40	MT	79	12.0764557272196	55274.1240605222	0.135662025300479	829525	892047	7.53708447605557
41	AK	78	12.7915385059821	78759.090244391	0.15043461520989	1031800	1108570	7.44039542547005
42	SD	63	11.4314286008714	49522.0788070437	0.148139682184491	606150	656514	8.30883444691908
43	VT	54	11.2231481958319	53985.9557291667	0.135194444183812	504100	534973	6.1243800833168
44	MS	19	11.7899999806755	55121.5263157895	0.149952631933909	139125	149342	7.34375561545373
45	TN	17	10.5611765209366	61530.0588235294	0.115917648462688	162175	141522	-12.73500847849...
46	IN	9	10.80111112444931	35416.1111111111	0.159711110923025	86225	85521	-0.816468541606...
47	ID	6	11.5116665760676	57792.93359375	0.145366667148968	59750	65329	9.33723849372385
48	NE	5	11.8140003085136	49624	0.16282000946522	31700	24542	-22.58044164037...
49	IA	5	8.97399991750717	50599.2	0.12910000346601	56450	64482	14.2285208148804
50	ME	3	10.4866666098436	23866.666666667	0.0971000014493863	9200	10808	17.4782608695652

Part 7- Group by Months and Sorting by Highest Profitability

```

SELECT
    DATENAME(Month, issue_date) as Month_name,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by Month(issue_date), DATENAME(Month, issue_date)

```

	Month_name	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	January	2332	11.4618867920076	70476.9686189262	0.129369854160024	25031650	27578836	10.1758613595188
2	February	2279	11.7216322607001	67393.4145767058	0.134093286596926	24647825	27717745	12.4551354936997
3	March	2627	11.8582908049946	68142.1952887086	0.132156147751171	28875700	32264400	11.7354730794405
4	April	2755	11.7409074291614	66337.4531491039	0.132193611582112	29800800	32495533	9.04248543663257
5	May	2911	12.2577945579884	69743.2024178225	0.133337444194804	31738350	33750523	6.33987904223124
6	June	3184	12.2742430978553	70460.2433652638	0.132437814069081	34161475	36164533	5.86349974642488
7	July	3366	12.2372370693596	68321.4058449848	0.132948158120873	35813900	38827220	8.41382815052256
8	August	3441	12.3002353887837	69029.5532276228	0.133532316144614	38149600	42682218	11.8811678235158
9	September	3536	12.0032324989819	72243.9052717804	0.132978478612715	40907725	43983948	7.51990730357164
10	October	3796	12.0241228277129	72520.8319489265	0.134143809251747	44893800	49399567	10.0365016995665
11	November	4035	11.9417175498261	70551.1454223784	0.133027335836364	47754825	50132030	4.97793678439823
12	December	4314	12.3560408676042	68755.4133494328	0.136655377880425	53981425	58074380	7.58215441700548

Part 8- Group by Employment Length and Sorting by Highest Profitability

```
SELECT
    distinct emp_length as Durations,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by emp_length
order by Profit_Percent DESC
```

	Durations	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	9 years	1255	11.9123267049927	74505.2047341882	0.135386772889345	15084225	16516173	9.4930167111668
2	2 years	4382	12.0714103365219	63296.3956415271	0.131047033330119	44967975	49206961	9.42667754107229
3	5 years	3273	12.0270363829422	68289.647426625	0.134271432957711	36973625	40397571	9.26050934957013
4	6 years	2228	12.0730431091636	68195.832531804	0.138239497295344	25612650	27908658	8.96435159969781
5	4 years	3428	12.1668086617603	66618.8999239945	0.13199682041261	37600375	40964850	8.94798256666323
6	7 years	1772	12.175355549969	69165.7115602515	0.136785270822151	20811725	22584136	8.51640601632013
7	10 > years	8870	12.0926629259695	81713.0545106838	0.137189346147294	116115950	125871616	8.40165885909731
8	8 years	1476	11.9060840255765	74619.2377585641	0.137697222229232	17558950	19025777	8.35372844048192
9	3 years	4088	12.0169838690864	66838.1379690749	0.131643272996851	43937850	47551832	8.22521356871126
10	1 year	3229	12.0529668950774	62739.2504215943	0.130706658437636	32883125	35498348	7.95308535913177
11	< 1 year	4575	11.9176590270846	60896.8858087859	0.12554653552448	44210625	47545011	7.54204673650282

Part 9 – Group by Ownerships and Sorting by Highest Profitability

```
SELECT
    distinct home_ownership ,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by home_ownership
order by Profit_Percent DESC
```

	home_ownership	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	None	3	8.69666660825412	80733.3333333333	0.11746667077144	16800	19053	13.4107142857143
2	Mortgage	17198	11.8023706413784	83763.0380173998	0.131702575903906	219329150	238474438	8.72902119941649
3	Other	98	12.0409183812385	71309.7142857143	0.112519387544218	1044975	1025257	-1.88693509414101
4	Rent	18439	12.3042958095145	57878.4140184358	0.134987439681047	185768475	201823056	8.64225267500312
5	Own	2838	11.886377740255	60465.2681858098	0.132402043744308	29597675	31729129	7.20142376048119

Part 10- Group by Purpose and Sorting by Highest Profitability

```
SELECT
    distinct purpose ,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by purpose
order by Profit_Percent DESC
```

	purpose	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	Wedding	928	11.8929849210966	68901.525377997	0.122616487059743	9225800	10266856	11.2841813176093
2	Car	1497	10.5921108962479	62681.9709549307	0.111803540341483	10223575	11324914	10.7725428727231
3	Credit card	4998	11.7306803046417	70994.439394117	0.146276510604328	58885175	65214084	10.7478817885826
4	Debt consolidation	18214	12.5042582864022	67846.561672919	0.144844625041295	232459675	253801871	9.18103150578697
5	Home improvement	2876	11.4013421553885	91042.3800587024	0.111077955513913	33350775	36380930	9.08571090177065
6	Major purchase	2110	10.8689573384221	67063.4634997038	0.108272227508588	17251600	18676927	8.26199888705975
7	Vacation	352	10.8752841140482	60710.7327520197	0.120951420261752	1967950	2116738	7.5605579410046
8	House	366	12.3807104223006	78125.224491974	0.106600819546249	4824925	5185538	7.47396073514096
9	Other	3824	11.8585277384802	64099.0749940753	0.122875392332526	31155750	33289676	6.8492204488738
10	Moving	559	11.5919677877202	62587.2668269231	0.116834883725255	3748125	3999899	6.717331999333
11	Renewable_energy	94	11.4962766581076	81331.0492436835	0.118180851323253	845750	898931	6.28802837718002
12	Medical	667	11.5708545911527	69315.4761408358	0.122153823365087	5533225	5851372	5.74975714885984
13	Educational	315	11.6544762076367	54042.6685019841	0.11307777757239	2161650	2248380	4.01221289292901
14	Small business	1776	13.0295326610238	75414.3292203336	0.111399718476109	24123100	23814817	-1.27795764225991

Part 11 – Group by Grade and Sorting by Highest Profitability

```
SELECT
    grade ,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by grade
order by Profit_Percent DESC
```

	grade	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	G	313	21.4006390196447	94724.9377371206	0.140594249396338	6348075	7266057	14.4607932325941
2	E	2786	17.7052296949477	78328.3779528221	0.140952943219818	44165100	49164151	11.3190075421543
3	F	1028	19.7440078532765	85115.6802365789	0.141737743204218	18910450	21016738	11.1382225171797
4	D	5182	15.7105402968499	69092.806181177	0.139807583953735	63920800	70823891	10.7994439994493
5	C	7904	13.5469218680205	68482.6566639024	0.139151239955024	87456450	95973518	9.73863905978347
6	B	11674	11.029087743073	68320.5775534006	0.134320909718438	130703975	140775015	7.70522855177128
7	A	9689	7.35197132396611	67533.9910195357	0.120382567883268	84252225	88051563	4.50948090688406

Part 12 – Group by Terms and Sorting by Highest Profitability

```
SELECT
    term ,
    Count(id) as Total_Number_of_Loans,
    AVG(int_rate) * 100 as Avg_Interest_rate,
    AVG(annual_income) as AVG_anunal_income,
    AVG(dti) as AVG_Debt_to_Income,
    SUM(loan_amount) as Total_Amount_of_Loan,
    SUM(total_payment) as Total_Amount_Recieved,
    (CAST(SUM(total_payment) - SUM(loan_amount) AS DECIMAL(18,2)) / SUM(loan_amount)) * 100 AS Profit_Percent
FROM [Bank Loan].[dbo].[financial_loan]
group by term
order by Profit_Percent DESC
```

	term	Total_Number_of_Loans	Avg_Interest_rate	AVG_anunal_income	AVG_Debt_to_Income	Total_Amount_of_Loan	Total_Amount_Recieved	Profit_Percent
1	60 months	10339	14.8288925575506	74564.474087043	0.142552113390482	162715850	178361475	9.61530483969447
2	36 months	28237	11.0309098203626	67843.1026466895	0.129877263890215	273041225	294709458	7.93588330846377