BANK LOAN REPORT QUERY DOCUMENT

A) BANK LOAN REPORT | SUMMARY

KPI's

Total Loan Applications

```
select COUNT(id) as Total_Loan_Applications
from bank_loan_data;
```

Total_Loan_Applications
38576

MTD Loan Applications

```
select COUNT(id) as MTD_Total_Loan_Applications
from bank_loan_data
where MONTH(issue_date) = MONTH((select MAX(issue_date) from bank_loan_data))
  and YEAR(issue_date) = YEAR((select MAX(issue_date) from bank_loan_data));
```

MTD_Total_Loan_Applications
4314

MOM Loan Applications

```
WITH Monthly_Applications AS (
    SELECT
        YEAR(issue_date) AS Year_data,
        MONTH(issue_date) AS Month_data,
        COUNT(id) AS Total_Applications
    FROM bank_loan_data
    GROUP BY YEAR(issue_date), MONTH(issue_date)
)
select cast(round(((curr.Total_Applications - prev.Total_Applications) * 100.0 /
nullif(prev.Total_Applications, 0)), 2) as decimal(10, 2)) as MOM_percentage
from Monthly_Applications curr
join Monthly_Applications prev
on curr.Year_data = prev.Year_data
and curr.Month_data = prev.Month_data + 1
where curr.Month_data = (select Month(max(issue_date)) from bank_loan_data)
and curr.Year_data = (select YEAR(max(issue_date)) from bank_loan_data);
```

MOM_percentage
6.91

Total Funded Amount

```
select SUM(loan_amount) as Total_Funded_Amount
from bank_loan_data;
```

Total_Funded_Amount
435757075

MTD Total Funded Amount

```
select SUM(loan_amount) as MTD_Total_Funded_Amount
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data));
```

MTD_Total_Funded_Amount
53981425

MOM Total Funded Amount

```
with Curr_Mnth_Amt as
(
select SUM(loan_amount) as MTD_Total_Funded_Amount
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data))
),
Prev_Mnth_Amt as
(
select SUM(loan_amount) as Prev_Mnth_Total_Funded_Amount
from bank_loan_data
where MONTH(issue_date) = MONTH(dateadd(MONTH, -1, (select MAX(issue_date) from bank_loan_data)))
and YEAR(issue_date) = YEAR(dateadd(MONTH, -1, (select MAX(issue_date) from bank_loan_data)))
)
select cast(round(((cma.MTD_Total_Funded_Amount - pma.Prev_Mnth_Total_Funded_Amount) * 100.0 /
nullif(pma.Prev_Mnth_Total_Funded_Amount, 0)), 2) as decimal(10, 2)) as MOM_Total_Funded_Amount
from Curr_Mnth_Amt cma
cross join Prev_Mnth_Amt pma;
```

MOM_Total_Funded_Amount
13.04

Total Amount Received

```
select SUM(total_payment) as Total_Amount_Received
from bank_loan_data;
```

Total_Amount_Received
473070933

MTD Total Amount Received

```
select SUM(total_payment) as MTD_Total_Amount_Received
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data));
```

MTD_Total_Amount_Received
58074380

MOM Total Amount Received

```
with curr_mnth as
(
select SUM(total_payment) as Curr_Mnth_Total_Amount_Received
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data))
),
prev_mnth as
(
select SUM(total_payment) as Prev_Mnth_Total_Amount_Received
from bank_loan_data
where MONTH(issue_date) = month(DATEADD(month, -1, (select max(issue_date) from bank_loan_data)))
and YEAR(issue_date) = year(DATEADD(month, -1, (select max(issue_date) from bank_loan_data)))
)
select
cast(round(((cm.Curr_Mnth_Total_Amount_Received - pm.Prev_Mnth_Total_Amount_Received) * 100.0 /
nullif(pm.Prev_Mnth_Total_Amount_Received, 0)), 2) as decimal(10, 2)) as MOM_Total_Amount_Received
from curr_mnth cm
cross join prev_mnth pm;
```

MOM_Total_Amount_Received
15.84

Average Interest Rate

```
select round(AVG(int_rate), 4) * 100 as Avg_Interest_Rate
from bank_loan_data;
```

Avg_Interest_Rate
12.05

MTD Average Interest Rate

```
select round(AVG(int_rate), 4) * 100 as MTD_Avg_Interest_Rate
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data));
```

MTD_Avg_Interest_Rate
12.36

MOM Average Interest Rate

```
with latest as
(
select MAX(issue_date) as max_date from bank_loan_data
),
curr_mnth as
(
select round(AVG(int_rate), 4) * 100 as Curr_Mnth_Avg_Interest_Rate
from bank_loan_data
where MONTH(issue_date) = MONTH((select max_date from latest))
and YEAR(issue_date) = YEAR((select max_date from latest))
),
prev_mnth as
(
select round(AVG(int_rate), 4) * 100 as Prev_Mnth_Avg_Interest_Rate
from bank_loan_data
where MONTH(issue_date) = month(DATEADD(month, -1, (select max_date from latest)))
and YEAR(issue_date) = year(DATEADD(month, -1, (select max_date from latest)))
)
select
cast(round(((currm.Curr_Mnth_Avg_Interest_Rate - prevm.Prev_Mnth_Avg_Interest_Rate) /
nullif(prevm.Prev_Mnth_Avg_Interest_Rate, 0) * 100.0), 2) as decimal(10, 2)) as
MOM_Avg_Interest_Rate
from curr_mnth currm
cross join prev_mnth prevm;
```

MOM_Avg_Interest_Rate
3.52

Average DTI

```
select round(AVG(dti), 4) * 100 as Avg_DTI
from bank_loan_data;
```

Avg_DTI
13.33

MTD Average DTI

```
select round(AVG(dti), 4) * 100 as MTD_Avg_DTI
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data));
```

MTD_Avg_DTI
13.67

MOM Average DTI

```
with curr_mnth_avg_dti as
(
select round(AVG(dti), 4) * 100 as Curr_Mnth_Avg_DTI
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data))
),
prev_mnth_avg_dti as
(
select round(AVG(dti), 4) * 100 as Prev_Mnth_Avg_DTI
from bank_loan_data
where MONTH(issue_date) = month(DATEADD(month, -1, (select max(issue_date) from bank_loan_data)))
and YEAR(issue_date) = year(DATEADD(month, -1, (select max(issue_date) from bank_loan_data)))
)
select
round(((currm.Curr_Mnth_Avg_DTI - prevm.Prev_Mnth_Avg_DTI) / nullif(prevm.Prev_Mnth_Avg_DTI, 0) *
100.0), 2) as MOM_Average_DTI
from curr_mnth_avg_dti currm
cross join prev_mnth_avg_dti prevm;
```

MOM_Average_DTI
2.78

GOOD LOAN ISSUED

Good Loan Application Percentage

```
select
cast(round(COUNT(case when loan_status = 'Fully Paid' or loan_status = 'Current' then id end) *
100.0
/
COUNT(id), 2) as decimal(10, 2)) as Good_Loan_Percentage
from bank_loan_data;
```

Good_Loan_Percentage
86.18

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 in ('Fully Paid', 'Current');
```

Good_Loan_Funded_Amount
370224850

Good Loan Received Amount

```
select SUM(total_payment) as Good_Loan_Received_Amount
from bank_loan_data
where loan_status in ('Fully Paid', 'Current');
```

Good_Loan_Received_Amount
435786170

BAD LOAN ISSUED

Bad Loan Total Application Percentage

```
select
cast(round(COUNT(case when loan_status = 'Charged Off' then id end) * 100.0
/
COUNT(id), 2) as decimal(10, 2)) as Bad_Loan_Percentage
from bank_loan_data;
```

Bad_Loan_Percentage
13.82

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 Total Received Amount

```
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 Total_Loan_Applications,
SUM(loan_amount) as Total_Funded_Amount,
SUM(total_payment) as Total_Amount_Received,
round(AVG(int_rate) * 100.0, 2) as Avg_Int_Rate,
round(AVG(dti) * 100.0, 2) as Avg_DTI
from bank_loan_data
group by loan_status;
```

loan_status	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received	Avg_Int_Rate	Avg_DTI
Fully Paid	32145	351358350	411586256	11.64	13.17
Charged Off	5333	65532225	37284763	13.88	14
Current	1098	18866500	24199914	15.1	14.72

```
select loan_status,
SUM(loan_amount) as MTD_Funded_Amount,
SUM(total_payment) as MTD_Amount_Received
from bank_loan_data
where MONTH(issue_date) = MONTH((select max(issue_date) from bank_loan_data))
and YEAR(issue_date) = YEAR((select max(issue_date) from bank_loan_data))
group by loan_status;
```

loan_status	MTD_Funded_Amount	MTD_Amount_Received
Charged Off	8732775	5324211
Current	3946625	4934318
Fully Paid	41302025	47815851

B) BANK LOAN REPORT | OVERVIEW

Monthly Trends by Issue Date

```
select
MONTH(issue_date) as Month_Num,
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_Num;
```

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

Regional Analysis by State

```
select address_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 SUM(loan_amount) desc;
```

address_state	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
CA	6894	78484125	83901234
NY	3701	42077050	46108181
TX	2664	31236650	34392715
FL	2773	30046125	31601905
NJ	1822	21657475	23425159
IL	1486	17124225	18875941
VA	1375	15982650	17711443
PA	1482	15826525	17462908
GA	1355	15480325	16728040
MA	1310	15051000	16676279
OH	1188	12991375	14330148
MD	1027	11911400	12985170

Loan Term Analysis

```
select 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;
```

term	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
36 months	28237	273041225	294709458
60 months	10339	162715850	178361475

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_Received
from bank_loan_data
group by emp_length
order by COUNT(id) desc;
```

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

Loan Purpose Breakdown

```
select 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 COUNT(id) desc;
```

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

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_Received
from bank_loan_data
group by home_ownership
order by COUNT(id) desc;
```

home_ownership	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
RENT	18439	185768475	201823056
MORTGAGE	17198	219329150	238474438
OWN	2838	29597675	31729129
OTHER	98	1044975	1025257
NONE	3	16800	19053

Applying Multiple Filters

```
select 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
where grade = 'A' and address_state = 'CA' and loan_status = 'Fully Paid'
group by home_ownership
order by COUNT(id) desc;
```

home_ownership	Total_Loan_Applications	Total_Funded_Amount	Total_Amount_Received
RENT	838	6914450	7403921
MORTGAGE	568	5806225	6208931
OWN	88	773300	828576
OTHER	2	14000	15340