Query SQL

```sql
select * from loan_data
limit 10;

```

Query #1 Execution time: 0.33ms

loan_id	name	loan_type	loan_amount	interest_rate	tenure_months	income	cibil_score	is_secure	collateral_value	dpd	utilization_percent	num_inquiries	emi_bounce_count
1	Arjun	Personal	250000.00	14	36	35000.00	720	No	0.00	5	68	3	1
2	Priya	Home	3000000.00	8.5	240	90000.00	780	Yes	4200000.00	0	22	1	0
3	Kiran	Auto	600000.00	9.5	60	60000.00	690	Yes	550000.00	12	55	2	1
4	Sneha	Personal	150000.00	16	24	30000.00	650	No	0.00	28	72	4	2
5	Rahul	Credit Card	50000.00	36	12	25000.00	610	No	0.00	40	89	5	3
6	Vishal	Home	2500000.00	7.9	180	85000.00	795	Yes	3700000.00	0	18	1	0
7	Pooja	Auto	700000.00	10	72	65000.00	700	Yes	600000.00	7	48	2	1
8	Ravi	Personal	120000.00	15	18	28000.00	640	No	0.00	33	75	4	2
9	Divya	Home	2800000.00	8	200	92000.00	770	Yes	4000000.00	0	20	1	0
10	Suresh	Auto	650000.00	9.8	60	62000.00	705	Yes	500000.00	15	57	3	1

Query SQL

```sql
with mr as (
    select *, (interest_rate/100)/12 as monthlyrate
    from loan_data
),
emi as (
    select loan_id,name,loan_type,loan_amount,income,is_secure,cibil_score,collateral_value,
           utilization_percent,num_inquiries,dpd,
    round( loan_amount * mr.monthlyrate * power(1+mr.monthlyrate,tenure_months) /
    (power(1+mr.monthlyrate,tenure_months)-1),2) as EMI_Amount
    from mr
),
dti as (
    select loan_id,name,loan_type,loan_amount,EMI_Amount,is_secure,income,
           cibil_score,collateral_value,utilization_percent,num_inquiries,dpd,
    round((EMI_Amount/income)*100,2) as DTI_percent
    from emi
),
ltv as (
    select loan_id,name,loan_type,loan_amount,EMI_Amount,DTI_percent,cibil_score,
           utilization_percent,num_inquiries,dpd,
    case
        when is_secure = 'Yes'
        then round((loan_amount/collateral_value)*100,2)
        else null
    end as LTV_percent
    from dti
),
behaviour as (
    select loan_id,name,loan_type,cibil_score,EMI_Amount,DTI_percent,LTV_percent,
           utilization_percent,num_inquiries,dpd
    from ltv
),
risk as (select
    loan_id,
    name,
    loan_type,
    cibil_score,
    utilization_percent,
    num_inquiries,
    dpd,
    EMI_Amount,
    DTI_percent,
```

```sql
    loan_type,
    cibil_score,
    utilization_percent,
    num_inquiries,
    dpd,
    EMI_Amount,
    DTI_percent,
    LTV_percent,

 case
  when cibil_score >= 750
       and DTI_percent < 35
       and coalesce(utilization_percent,0) < 30
       and coalesce(num_inquiries,0) <= 2
       and coalesce(dpd,0) < 7 then 'Prime'
-- With above conditions we can blindly approve loan application

  when cibil_score between 700 and 749
       and DTI_percent < 40
       and coalesce(utilization_percent,0) < 50
       and coalesce(num_inquiries,0) <= 4
       and coalesce(dpd,0) <= 29 then'Good'
-- with above conditions also we can approve loan application

  when (cibil_score between 650 and 699)
       or (DTI_percent between 40 and 50)
       or (coalesce(dpd,0) between 30 and 59)
       or (coalesce(utilization_percent,0) between 50 and 80) then 'Medium High'
-- with above conditions i approve loan with conditions like limit the requested loan amount only when charecter+capacity+conditions support

  when cibil_score < 650
       or DTI_percent > 50
       or coalesce(dpd,0) >= 60
       or coalesce(utilization_percent,0) >= 80
       or coalesce(num_inquiries,0) >= 5 then 'High Risk'
 -- i reject with this kind of bad numbers in charecter+capacity+conditions

  else 'Reject' end as  risk_segment  from behaviour)

select loan_id,name,loan_type,DTI_percent,cibil_score,utilization_percent,num_inquiries,dpd,risk_segment
from risk;

```

Results

Copy as Markdown

Query #1 Execution time: 1.09ms

loan_id	name	loan_type	DTI_percent	cibil_score	utilization_percent	num_inquiries	dpd	risk_segment
1	Arjun	Personal	24.41	720	68	3	5	Medium High
2	Priya	Home	28.93	780	22	1	0	Prime
3	Kiran	Auto	21	690	55	2	12	Medium High
4	Sneha	Personal	24.48	650	72	4	28	Medium High
5	Rahul	Credit Card	20.09	610	89	5	40	Medium High
6	Vishal	Home	27.94	795	18	1	0	Prime
7	Pooja	Auto	19.95	700	48	2	7	Good
8	Ravi	Personal	26.74	640	75	4	33	Medium High
9	Divya	Home	27.6	770	20	1	0	Prime
10	Suresh	Auto	22.17	705	57	3	15	Medium High
11	Lakshmi	Personal	19.61	680	65	2	25	Medium High
12	Manoj	Home	29.68	800	16	1	0	Prime
13	Anita	Credit Card	22.55	590	92	6	52	Medium High
14	Karthik	Auto	21.42	710	45	1	10	Good

```sql
select loan_id,name,loan_type,risk_segment
from risk
where risk_segment in ('Medium Risk','High Risk')
limit 10;
```

Query #1 **Execution time: 0.96ms**

loan_id	name	loan_type	risk_segment
1	Arjun	Personal	Medium Risk
3	Kiran	Auto	Medium Risk
4	Sneha	Personal	Medium Risk
5	Rahul	Credit Card	Medium Risk
8	Ravi	Personal	Medium Risk
10	Suresh	Auto	Medium Risk
11	Lakshmi	Personal	Medium Risk
13	Anita	Credit Card	Medium Risk
16	Harsha	Personal	Medium Risk
17	Neha	Credit Card	High Risk

```sql
select risk_segment,count(*) as risk_count
from risk
group by risk_segment;
```

Query #1 **Execution time: 0.91ms**

risk_segment	risk_count
Medium Risk	11
Prime	6
Good	2
High Risk	1

```sql
select risk_segment,round(avg(DTI_percent),2) as avg_dti
from risk
group by risk_segment;
```

Query #1 **Execution time: 11.89ms**

risk_segment	avg_dti
Medium Risk	22.4
Prime	28.86
Good	20.68
High Risk	17.74

```sql
select risk_segment,round(avg(cibil_score),2)as avg_cibil
from risk
group by risk_segment;
```

Query #1 **Execution time: 1.28ms**

risk_segment	avg_cibil
Medium Risk	663.18
Prime	786.67
Good	705.00
High Risk	580.00

```sql
select risk_segment,round(avg(dpd),2)as avg_dpd
from risk
group by risk_segment;
```

Query #1 **Execution time: 1.2ms**

risk_segment	avg_dpd
Medium Risk	25.45
Prime	0.00
Good	8.50
High Risk	60.00

```sql
select risk_segment,round(avg(utilization_percent),2)as avg_credit_utilization
from risk
group by risk_segment;

```

Query #1 **Execution time: 11.22ms**

risk_segment	avg_credit_utilization
Medium Risk	69.82
Prime	19.00
Good	46.50
High Risk	95.00

```
7
8 select risk_segment,round(avg(num_inquiries),2)as avg_credit_hungry_inquiries
9 from risk
0 group by risk_segment;
1
```

Query #1 **Execution time: 1.17ms**

risk_segment	avg_credit_hungry_inquiries
Medium Risk	3.36
Prime	1.00
Good	1.50
High Risk	7.00