**IBM Customer Relationship Management Data analysis**

RENAME TABLE `wa\_fn-usec\_-customer\_relationship` TO customer\_relationship\_Mng;

select \* from customer\_relationship\_mng;

alter table customer\_relationship\_mng

change column `Effective To Date` effective\_to\_date text;

alter table customer\_relationship\_mng

change column `Customer Lifetime Value` Customer\_Lifetime\_Value text;

**-- 1. Find Customers with Most Recent Interactions**

**-- This query retrieves customers who have interacted most recently with your business:**

select Customer, month(effective\_to\_date) as Most\_recent\_relation from customer\_relationship\_mng

where month(effective\_to\_date)= 2; -- MTD

**-- 2. Find the Total Revenue Generated by Customers in a Specific Time Period:**

select Months\_Since\_Last\_Claim, sum(Income) as Total\_income from customer\_relationship\_mng

where Months\_Since\_Last\_Claim > 12

group by 1

order by 1 desc limit 10;

**-- 3. List of Active Customers (Based on claims made):**

select Customer, Total\_Claim\_Amount,Months\_Since\_Last\_Claim,Monthly\_Premium\_Auto

from customer\_relationship\_mng order by 2 desc limit 5;

**-- 3. Customer Lifetime Value by Coverage Type:**

select Coverage, sum(Customer\_Lifetime\_Value) as Total\_CLV from customer\_relationship\_mng

group by 1;

**-- 4. Count of Customers in Each Coverage Category:**

select Coverage,count(Customer)as Total\_customer from customer\_relationship\_mng

group by 1;

**/\* 5. Customer Segmentation: Number of Policies vs. Customer Lifetime Value**

**Query: Group customers by EmploymentStatus and calculate total policies and average lifetime value. \*/**

select EmploymentStatus, sum(Number\_of\_Policies) as Total\_No\_policies, Avg(Customer\_Lifetime\_Value) as Average\_CLV

from customer\_relationship\_mng

group by EmploymentStatus;

**/\* 6. Find Customers with High Lifetime Value**

**Query: Get customers with a Customer\_Lifetime\_Value greater than a specific threshold (e.g., 1000). \*/**

select customer, Customer\_Lifetime\_Value from customer\_relationship\_mng

where Customer\_Lifetime\_Value > 2000;

**-- 7. Average Premium by Employment Status:**

select EmploymentStatus, round(avg(Monthly\_Premium\_Auto),2) as Average\_premium\_employeed\_status

from customer\_relationship\_mng

group by 1;

**-- 9. Top 5 Customers by Lifetime Value:**

select customer, Customer\_Lifetime\_Value as CLV\_Highest from customer\_relationship\_mng

order by 2 desc limit 5;

**-- 10. Customer Count by Region (if applicable):**

select state, count(Customer) as Total\_cus\_by\_state

from customer\_relationship\_mng

group by 1;

**-- 11. Find Coverage Types with More Policies:**

select Coverage, sum(Number\_of\_Policies) as Total\_number\_of\_policies

from customer\_relationship\_mng

group by 1

having sum(Number\_of\_Policies)> 34;

**-- 12. Customers with Missing Data for Specific Columns**

**-- Query: Get a list of customers who have missing values for Customer\_Lifetime\_Value.**

select customer, Customer\_Lifetime\_Value from customer\_relationship\_mng

where Customer\_Lifetime\_Value is null;

**-- 13. Distribution of Customers by Income (Assuming there's an Income Column):**

select \* from customer\_relationship\_mng;

select

case

when Income< 20000 then 'Low Income'

when Income between 20000 and 50000 then 'Medium Income'

else 'Higher Income'

end as Income\_group, count(Customer)

from customer\_relationship\_mng

group by 1;

**-- 14. Average Policies per Customer by Coverage Type (Joins):**

-- Query: Calculate the average number of policies per customer for each Coverage type.

SELECT Coverage,

AVG(Number\_of\_Policies) AS Avg\_Policies\_Per\_Customer

FROM customer\_relationship\_mng

GROUP BY Coverage;

**-- 15. Top 3 Coverage Types with Highest Total Policies (Subquery)**

SELECT Coverage,

SUM(Number\_of\_Policies) AS Total\_Policies

FROM customer\_relationship\_mng

GROUP BY Coverage

ORDER BY Total\_Policies DESC

LIMIT 3;

**-- 16. Find the Average Number of Policies for Each Employment Status with a Subquery:**

SELECT EmploymentStatus,

AVG(Number\_of\_Policies) AS Avg\_Policies

FROM customer\_relationship\_mng

group by 1;

**-- 17. Customers with the Highest and Lowest Premiums by Employment Status (Subquery)**

**-- Query: Find the customer with the highest and lowest Monthly\_Premium\_Auto for each EmploymentStatus.**

SELECT EmploymentStatus,

Customer,

Monthly\_Premium\_Auto

FROM customer\_relationship\_mng

WHERE (EmploymentStatus, Monthly\_Premium\_Auto) IN (

SELECT EmploymentStatus, MAX(Monthly\_Premium\_Auto)

FROM customer\_relationship\_mng

GROUP BY EmploymentStatus

)

OR (EmploymentStatus, Monthly\_Premium\_Auto) IN (

SELECT EmploymentStatus, MIN(Monthly\_Premium\_Auto)

FROM customer\_relationship\_mng

GROUP BY EmploymentStatus

);