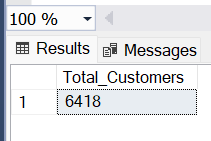
MICROSOFT SQL SERVER QUERIES

**Q1. Find the Total Number of Customers ?**

SELECT COUNT(\*) AS Total\_Customers FROM stg\_churn;



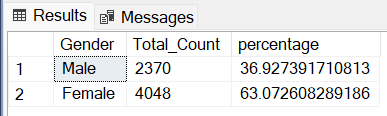
**Q2. Find out the Total numbers of males and females customer are present in percentage in the dataset ?**

SELECT Gender,COUNT(Gender) as Total\_Count,

COUNT(Gender) \* 100.0 / (Select count(\*) from stg\_churn) as percentage

from stg\_churn

group by Gender



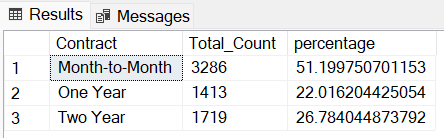
**Q3. Find the month-to-month,one year,2 year contract in the data?**

SELECT Contract, COUNT(Contract) as Total\_Count,

COUNT(Contract) \* 100.0 / (Select count(\*) from stg\_churn) as percentage

from stg\_churn

group by Contract



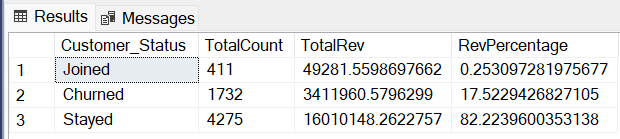
**Q4. Find out the total numbers of customer\_status, count,total\_revenue, total\_percentage?**

SELECT Customer\_Status, Count(Customer\_Status) as TotalCount, Sum(Total\_Revenue) as TotalRev,

Sum(Total\_Revenue) / (Select sum(Total\_Revenue) from stg\_Churn) \* 100 as RevPercentage

from stg\_Churn

Group by Customer\_Status



**Q5. Find the state wise total count in percentage format ?**

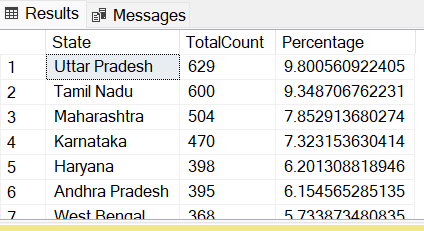
SELECT State, Count(State) as TotalCount,

Count(State) \* 100.0 / (Select Count(\*) from stg\_Churn) as Percentage

from stg\_Churn

Group by State

Order by Percentage desc



**Q6. Find the null values in each columns & remove null as per the column values ?**

SELECT

SUM(CASE WHEN Customer\_ID IS NULL THEN 1 ELSE 0 END) AS Customer\_ID\_Null\_Count,

SUM(CASE WHEN Gender IS NULL THEN 1 ELSE 0 END) AS Gender\_Null\_Count,

SUM(CASE WHEN Age IS NULL THEN 1 ELSE 0 END) AS Age\_Null\_Count,

SUM(CASE WHEN Married IS NULL THEN 1 ELSE 0 END) AS Married\_Null\_Count,

SUM(CASE WHEN State IS NULL THEN 1 ELSE 0 END) AS State\_Null\_Count,

SUM(CASE WHEN Number\_of\_Referrals IS NULL THEN 1 ELSE 0 END) AS Number\_of\_Referrals\_Null\_Count,

SUM(CASE WHEN Tenure\_in\_Months IS NULL THEN 1 ELSE 0 END) AS Tenure\_in\_Months\_Null\_Count,

SUM(CASE WHEN Value\_Deal IS NULL THEN 1 ELSE 0 END) AS Value\_Deal\_Null\_Count,

SUM(CASE WHEN Phone\_Service IS NULL THEN 1 ELSE 0 END) AS Phone\_Service\_Null\_Count,

SUM(CASE WHEN Multiple\_Lines IS NULL THEN 1 ELSE 0 END) AS Multiple\_Lines\_Null\_Count,

SUM(CASE WHEN Internet\_Service IS NULL THEN 1 ELSE 0 END) AS Internet\_Service\_Null\_Count,

SUM(CASE WHEN Internet\_Type IS NULL THEN 1 ELSE 0 END) AS Internet\_Type\_Null\_Count,

SUM(CASE WHEN Online\_Security IS NULL THEN 1 ELSE 0 END) AS Online\_Security\_Null\_Count,

SUM(CASE WHEN Online\_Backup IS NULL THEN 1 ELSE 0 END) AS Online\_Backup\_Null\_Count,

SUM(CASE WHEN Device\_Protection\_Plan IS NULL THEN 1 ELSE 0 END) AS Device\_Protection\_Plan\_Null\_Count,

SUM(CASE WHEN Premium\_Support IS NULL THEN 1 ELSE 0 END) AS Premium\_Support\_Null\_Count,

SUM(CASE WHEN Streaming\_TV IS NULL THEN 1 ELSE 0 END) AS Streaming\_TV\_Null\_Count,

SUM(CASE WHEN Streaming\_Movies IS NULL THEN 1 ELSE 0 END) AS Streaming\_Movies\_Null\_Count,

SUM(CASE WHEN Streaming\_Music IS NULL THEN 1 ELSE 0 END) AS Streaming\_Music\_Null\_Count,

SUM(CASE WHEN Unlimited\_Data IS NULL THEN 1 ELSE 0 END) AS Unlimited\_Data\_Null\_Count,

SUM(CASE WHEN Contract IS NULL THEN 1 ELSE 0 END) AS Contract\_Null\_Count,

SUM(CASE WHEN Paperless\_Billing IS NULL THEN 1 ELSE 0 END) AS Paperless\_Billing\_Null\_Count,

SUM(CASE WHEN Payment\_Method IS NULL THEN 1 ELSE 0 END) AS Payment\_Method\_Null\_Count,

SUM(CASE WHEN Monthly\_Charge IS NULL THEN 1 ELSE 0 END) AS Monthly\_Charge\_Null\_Count,

SUM(CASE WHEN Total\_Charges IS NULL THEN 1 ELSE 0 END) AS Total\_Charges\_Null\_Count,

SUM(CASE WHEN Total\_Refunds IS NULL THEN 1 ELSE 0 END) AS Total\_Refunds\_Null\_Count,

SUM(CASE WHEN Total\_Extra\_Data\_Charges IS NULL THEN 1 ELSE 0 END) AS Total\_Extra\_Data\_Charges\_Null\_Count,

SUM(CASE WHEN Total\_Long\_Distance\_Charges IS NULL THEN 1 ELSE 0 END) AS Total\_Long\_Distance\_Charges\_Null\_Count,

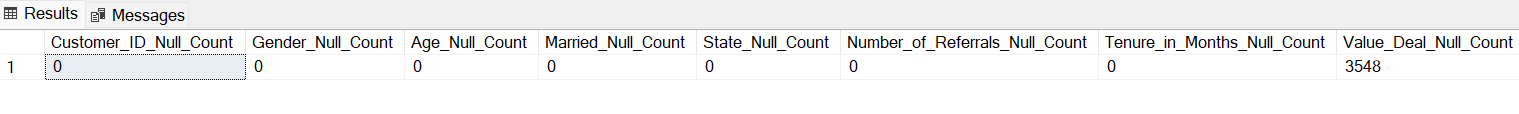
SUM(CASE WHEN Total\_Revenue IS NULL THEN 1 ELSE 0 END) AS Total\_Revenue\_Null\_Count,

SUM(CASE WHEN Customer\_Status IS NULL THEN 1 ELSE 0 END) AS Customer\_Status\_Null\_Count,

SUM(CASE WHEN Churn\_Category IS NULL THEN 1 ELSE 0 END) AS Churn\_Category\_Null\_Count,

SUM(CASE WHEN Churn\_Reason IS NULL THEN 1 ELSE 0 END) AS Churn\_Reason\_Null\_Count

FROM stg\_Churn;



**Q7. Find the null values and replace it with other values ?**

SELECT, Customer\_ID, Gender, Age, Married, State,Number\_of\_Referrals, Tenure\_in\_Months,

ISNULL(Value\_Deal, 'None') AS Value\_Deal,

Phone\_Service,

ISNULL(Multiple\_Lines, 'No') As Multiple\_Lines,

Internet\_Service,

ISNULL(Internet\_Type, 'None') AS Internet\_Type,

ISNULL(Online\_Security, 'No') AS Online\_Security,

ISNULL(Online\_Backup, 'No') AS Online\_Backup,

ISNULL(Device\_Protection\_Plan, 'No') AS Device\_Protection\_Plan,

ISNULL(Premium\_Support, 'No') AS Premium\_Support,

ISNULL(Streaming\_TV, 'No') AS Streaming\_TV,

ISNULL(Streaming\_Movies, 'No') AS Streaming\_Movies,

ISNULL(Streaming\_Music, 'No') AS Streaming\_Music,

ISNULL(Unlimited\_Data, 'No') AS Unlimited\_Data,

Contract, Paperless\_Billing, Payment\_Method, Monthly\_Charge,

Total\_Charges, Total\_Refunds,Total\_Extra\_Data\_Charges,

Total\_Long\_Distance\_Charges, Total\_Revenue, Customer\_Status,

ISNULL(Churn\_Category, 'Others') AS Churn\_Category,

ISNULL(Churn\_Reason , 'Others') AS Churn\_Reason

INTO [db\_Churn].[dbo].[prod\_Churn]

FROM [db\_Churn].[dbo].[stg\_Churn];

TELECOM CHURN ANALYSIS - POWER BI DASHBOARD QUERIES

**1. Total Churned Customers**

SELECT COUNT(\*) AS Total\_Churn

FROM customers

WHERE churn\_status = 'Yes';

**2. New Joiners Count**

SELECT COUNT(\*) AS New\_Joiners

FROM customers

WHERE join\_date >= '2022-01-01';

**3. Total Churn by Gender**

SELECT gender, COUNT(\*) AS Total\_Churn

FROM customers

WHERE churn\_status = 'Yes'

GROUP BY gender;

**4. Churn Rate by Gender**

SELECT gender,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY gender;

**5. Churn Rate by Payment Method**

SELECT payment\_method,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY payment\_method;

6. **Churn Rate by Age Group**

SELECT age\_group,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY age\_group;

7. **Total Churn Rate**

SELECT ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Total\_Churn\_Rate

FROM customers;

**8. Churn Rate by Contract Type**

SELECT contract\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY contract\_type;

**9. Churn Rate by Internet Type**

SELECT internet\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY internet\_type;

**10. Churn Rate by Tenure Group**

SELECT tenure\_group,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY tenure\_group;

**11. Top 5 States by Churn Rate**

SELECT TOP 5 state,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY state

ORDER BY Churn\_Rate DESC;

**12. Churn by Service Usage**

SELECT service\_type,

COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) AS Churned\_Customers,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customer\_services

GROUP BY service\_type;

**13. Churn Rate by Customer Age Group and Tenure Group**

SELECT age\_group, tenure\_group,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY age\_group, tenure\_group;

**14. Churn Rate by Payment Method and Contract Type**

SELECT payment\_method, contract\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY payment\_method, contract\_type;

**15. Monthly Churn Rate**

SELECT DATEPART(YEAR, churn\_date) AS Year, DATEPART(MONTH, churn\_date) AS Month,

COUNT(\*) AS Monthly\_Churn,

ROUND((COUNT(\*) \* 100.0 / (SELECT COUNT(\*) FROM customers)), 2) AS Churn\_Rate

FROM customers

WHERE churn\_status = 'Yes'

GROUP BY DATEPART(YEAR, churn\_date), DATEPART(MONTH, churn\_date);

**16. Churn Rate by Tenure and Service Type**

SELECT tenure\_group, service\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

JOIN customer\_services ON customers.customer\_id = customer\_services.customer\_id

GROUP BY tenure\_group, service\_type;

**17. Cumulative Churn Rate Over Time**

SELECT YEAR(churn\_date) AS Year,

SUM(CASE WHEN churn\_status = 'Yes' THEN 1 ELSE 0 END) OVER (ORDER BY YEAR(churn\_date)) AS Cumulative\_Churn

FROM customers

WHERE churn\_status = 'Yes'

GROUP BY YEAR(churn\_date);

**18. Churn Rate by Gender and Internet Type**

SELECT gender, internet\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY gender, internet\_type;

**19. Churn Rate by Payment Method and Internet Type**

SELECT payment\_method, internet\_type,

ROUND((COUNT(CASE WHEN churn\_status = 'Yes' THEN 1 END) \* 100.0 / COUNT(\*)), 2) AS Churn\_Rate

FROM customers

GROUP BY payment\_method, internet\_type;

**20. Identify the Churn Category with Highest Rate**

SELECT churn\_category,

ROUND((COUNT(\*) \* 100.0 / (SELECT COUNT(\*) FROM customers WHERE churn\_status = 'Yes')), 2) AS Churn\_Rate

FROM churn\_details

WHERE churn\_status = 'Yes'

GROUP BY churn\_category

ORDER BY Churn\_Rate DESC;

THANKYOU