**Data Exploration – Check Distinct Values**

select Gender, count(Gender) as TotalCount,  
count(Gender)\*100.00 / (select count(\*) from customer) as percentage  
from customer  
group by Gender;  
  
select Contract , count(Contract) as TotalCount,  
count(Contract)\*100.00/ (select count(\*) from customer) as percentage  
from customer  
group by Contract;  
  
  
select state , count(state) as TotalCount,  
count(state)\*100.00/ (select count(\*) from customer) as percentage  
from customer  
group by state  
order by percentage desc;  
  
SELECT Customer\_Status, Count(Customer\_Status) as TotalCount, Sum(Total\_Revenue) as TotalRev,  
Sum(Total\_Revenue) / (Select sum(Total\_Revenue) from customer) \* 100 as RevPercentage  
from customer  
Group by Customer\_Status;

**Data Exploration – Check Nulls**

SELECT   
 SUM(CASE WHEN Customer\_ID ='' THEN 1 ELSE 0 END) AS Customer\_ID\_Null\_Count,  
 SUM(CASE WHEN Gender ='' THEN 1 ELSE 0 END) AS Gender\_Null\_Count,  
 SUM(CASE WHEN Age ='' THEN 1 ELSE 0 END) AS Age\_Null\_Count,  
 SUM(CASE WHEN Married ='' THEN 1 ELSE 0 END) AS Married\_Null\_Count,  
 SUM(CASE WHEN State ='' 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 =''THEN 1 ELSE 0 END) AS Tenure\_in\_Months\_Null\_Count,  
 SUM(CASE WHEN Value\_Deal = '' THEN 1 ELSE 0 END) AS Value\_Deal\_Null\_Count,  
 SUM(CASE WHEN Phone\_Service ='' THEN 1 ELSE 0 END) AS Phone\_Service\_Null\_Count,  
 SUM(CASE WHEN Multiple\_Lines ='' THEN 1 ELSE 0 END) AS Multiple\_Lines\_Null\_Count,  
 SUM(CASE WHEN Internet\_Service ='' THEN 1 ELSE 0 END) AS Internet\_Service\_Null\_Count,  
 SUM(CASE WHEN Internet\_Type ='' THEN 1 ELSE 0 END) AS Internet\_Type\_Null\_Count,  
 SUM(CASE WHEN Online\_Security ='' THEN 1 ELSE 0 END) AS Online\_Security\_Null\_Count,  
 SUM(CASE WHEN Online\_Backup ='' THEN 1 ELSE 0 END) AS Online\_Backup\_Null\_Count,  
 SUM(CASE WHEN Device\_Protection\_Plan ='' THEN 1 ELSE 0 END) AS Device\_Protection\_Plan\_Null\_Count,  
 SUM(CASE WHEN Premium\_Support ='' THEN 1 ELSE 0 END) AS Premium\_Support\_Null\_Count,  
 SUM(CASE WHEN Streaming\_TV ='' THEN 1 ELSE 0 END) AS Streaming\_TV\_Null\_Count,  
 SUM(CASE WHEN Streaming\_Movies ='' THEN 1 ELSE 0 END) AS Streaming\_Movies\_Null\_Count,  
 SUM(CASE WHEN Streaming\_Music ='' THEN 1 ELSE 0 END) AS Streaming\_Music\_Null\_Count,  
 SUM(CASE WHEN Unlimited\_Data ='' THEN 1 ELSE 0 END) AS Unlimited\_Data\_Null\_Count,  
 SUM(CASE WHEN Contract ='' THEN 1 ELSE 0 END) AS Contract\_Null\_Count,  
 SUM(CASE WHEN Paperless\_Billing ='' THEN 1 ELSE 0 END) AS Paperless\_Billing\_Null\_Count,  
 SUM(CASE WHEN Payment\_Method ='' THEN 1 ELSE 0 END) AS Payment\_Method\_Null\_Count,  
 SUM(CASE WHEN Monthly\_Charge =' ' THEN 1 ELSE 0 END) AS Monthly\_Charge\_Null\_Count,  
 SUM(CASE WHEN Total\_Charges='' 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 =''THEN 1 ELSE 0 END) AS Customer\_Status\_Null\_Count,  
 SUM(CASE WHEN Churn\_Category =''THEN 1 ELSE 0 END) AS Churn\_Category\_Null\_Count,  
 SUM(CASE WHEN Churn\_Reason ='' THEN 1 ELSE 0 END) AS Churn\_Reason\_Null\_Count  
FROM customer;

**Remove null and insert the new data into Prod table**

create table prod\_Churn   
select   
Customer\_ID,   
Gender,   
Age,  
Married,  
State,  
Number\_of\_Referrals,  
Tenure\_in\_Months,  
if (Value\_Deal ='', 'None', Value\_Deal) as Value\_Deal,  
Phone\_Service,  
if(Multiple\_Lines='', 'No', Multiple\_Lines) As Multiple\_Lines,  
Internet\_Service,  
if(Internet\_Type='', 'None', Internet\_Type) AS Internet\_Type,  
if(Online\_Security='', 'No',Online\_Security) AS Online\_Security,  
if(Online\_Backup='', 'No',Online\_Backup) AS Online\_Backup,  
if(Device\_Protection\_Plan='', 'No',Device\_Protection\_Plan) AS Device\_Protection\_Plan,  
if(Premium\_Support='', 'No', Premium\_Support) AS Premium\_Support,  
if(Streaming\_TV='', 'No',Streaming\_TV) AS Streaming\_TV,  
if(Streaming\_Movies='', 'No', Streaming\_Movies) AS Streaming\_Movies,  
if(Streaming\_Music='', 'No', Streaming\_Music) AS Streaming\_Music,  
if(Unlimited\_Data='', 'No',Unlimited\_Data) 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,  
if(Churn\_Category='', 'Others', Churn\_Category) AS Churn\_Category,  
if(Churn\_Reason='' , 'Others',Churn\_Reason) AS Churn\_Reason  
from customer;

**Create View for Power BI**

Create View vw\_ChurnData as

select \* from prod\_Churn where Customer\_Status In ('Churned', 'Stayed')

Create View vw\_JoinData as

select \* from prod\_Churn where Customer\_Status = 'Joined'