

Assuming you have two SQL tables *PL\_table* and *Sales\_table* with the following fields and schema:

*PL\_table*

Field name	Type	Explanation
Period	Date	First day of the month such as "2023-06-01". (YYYY-MM-DD). It includes data for year 2021 to 2023
Scenario	String	"Actual" or "Forecast".
Category	String	
Sub_Category	String	
Region	String	
Market	String	
Channel	String	
Customer	String	
Account	String	volume <sup>#</sup> and P&L Accounts such as grossmargin, tradingprofit, netrev, sales
Account_Values	Float	

*Sales\_table*

Field name	Type	Explanation
Calendar_day	Date	The day of the actual sales transaction, such as "2023-05-04" (YYYY-MM-DD). It includes actual sales data from 2019 to 2023.
Category	String	
Sub_Category	String	
Material	String	Unique material codes which roll up to Sub_Category and Category
Region	String	
Market	String	
Channel	String	
Customer	String	
Sales_Value	Float	

\* The members in Category, Sub\_Category, Region, Market, Channel and Customer may be dissimilar in both tables. (e.g., Certain customers in forecast scenario of the *PL\_table* may not exist in *Sales\_table*)

<sup>#</sup> Volume is the number of units sold

1. Can you write a SQL query to extract both Sales\_Value and Forecasted Sales\_Value for each Period, Category, Sub\_Category, Region, Market, Channel, Customer for the year 2023?

The end table should have the following fields: Period, Category, Sub\_Category, Region, Market, Channel, Customer, Sales\_Value, Forecasted\_Sales\_Value.

2. Can you write a SQL query to extract weekly Sales\_Values, Rolling Past 8-weeks Sales\_Values, Rolling Past 8-12 weeks Sales\_Values from the Sales\_table? *Hint: please consider the case where a sale might not be present in a certain week, means no data record for that week)*

The result table should have the following fields: Calendar\_week, Category, Sub\_Category, Material, Region, Market, Channel, Customer, Sales\_Values, Rolling\_Past 8-weeks Sales\_Values, Rolling\_Past 8-12 weeks Sales\_Values

3. Can you write a SQL query to structure the data from the PL\_table so that the end table can be visualized in tableau to show the per unit values for all the accounts and allow drill-down to different levels? *Hint: please consider the case the number of records for each account might be different)*

Please also help to explain the steps to visualize it in tableau after your SQL query.

[Per unit calculation = [Account\_values/ Account\_values (where Account = "volume")].