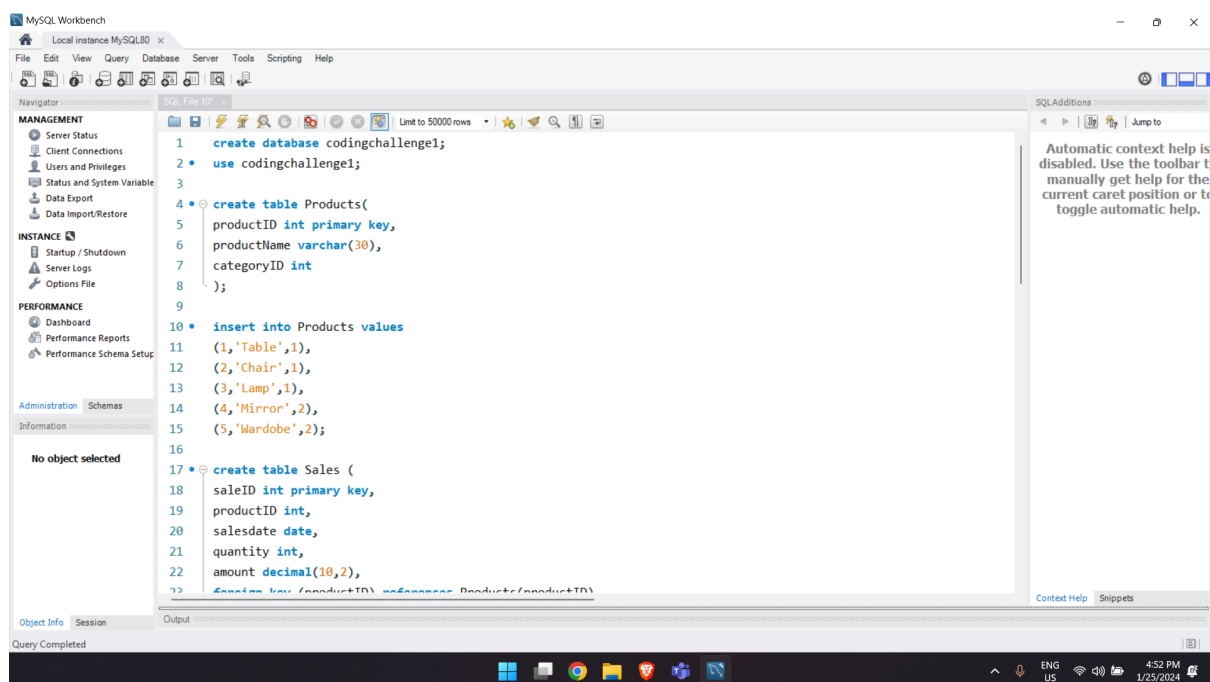


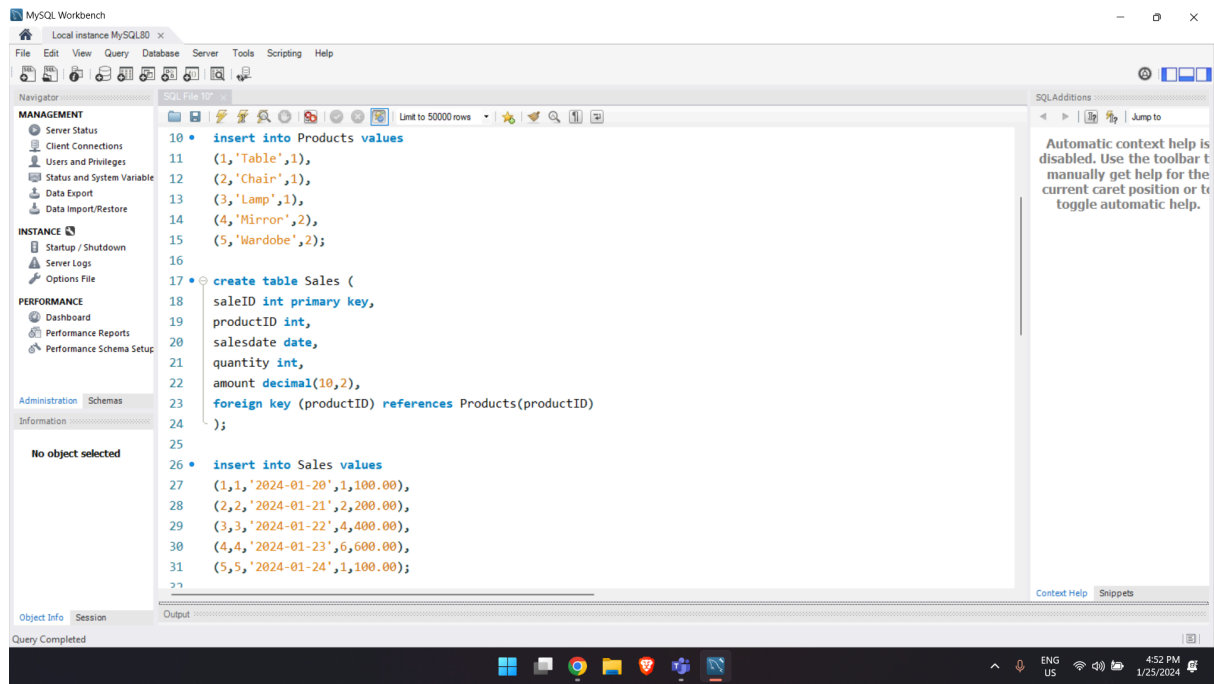
Name : Parth Nandedkar
Batch : Data Engineering Batch 1
Topic : **Coding Challenge Q1**

I have created a new database named '**codingchallenge1**', by using the create database command .

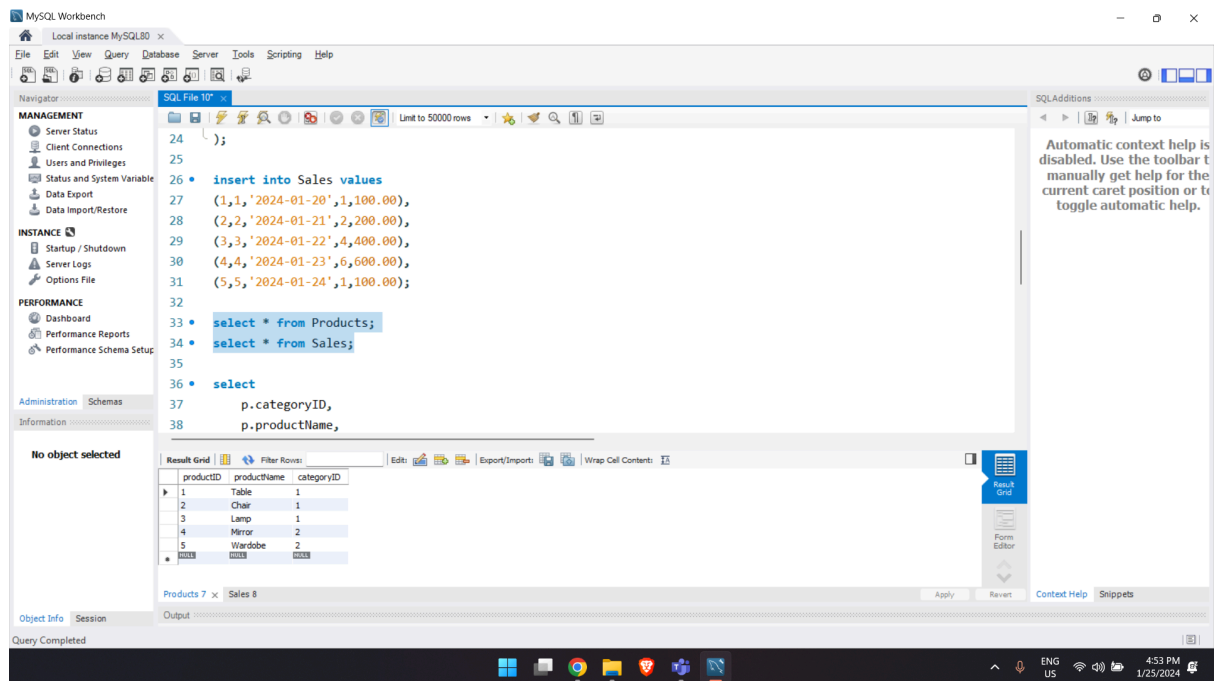
To use that database I used the '**use database_name**' command.

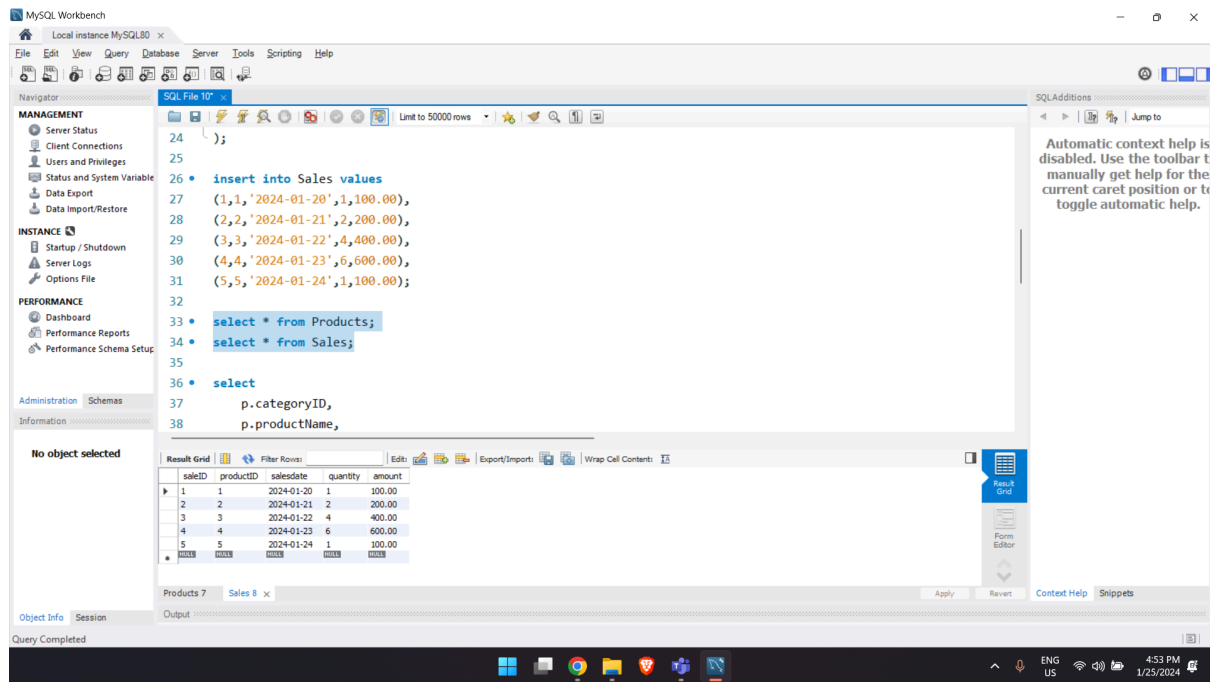
I have created 2 new tables named 'Products' and 'Sales' and added 5 rows of dummy data to perform operations on it.





Tables are like :





Q1. Execute OVER and PARTITION BY Clause in SQL Queries ,creating subtotals And Total Aggregations using SQL Queries.

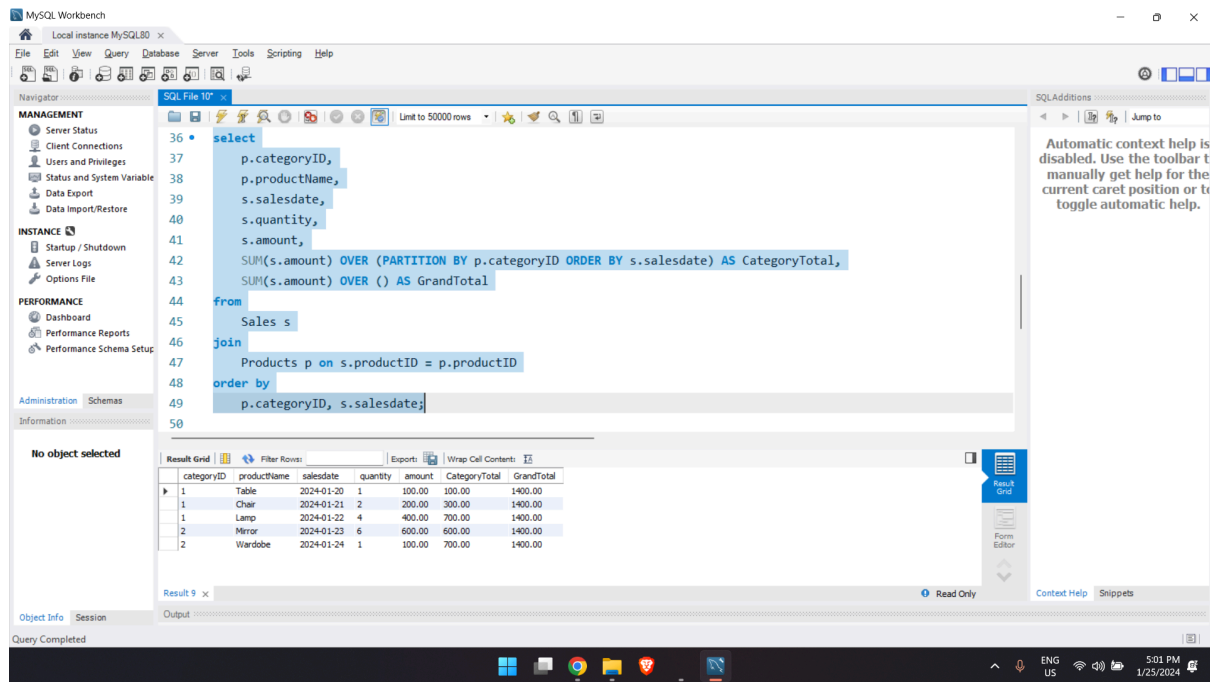
OVER and PARTITION BY clause are used together to perform analytical operations on data.

Here in the example which i took there is attribute categoryID on which we can distribute the data , like first 3 rows of the data are of **categoryID 1** and rest two are of **categoryID 2**

Syntax to use this is

aggregate_function(attribute) **OVER** (PARTITION BY attribute)

So to get total Sales done CategoryID wise i have executed a query :



Where Select does retrieving of data which is mentioned

$\text{SUM}(\text{s.amount}) \text{ OVER } (\text{PARTITION BY p.categoryID ORDER BY s.salesdate}) \text{ AS CategoryTotal}$

In the above statement **SUM()** is an aggregate function which gives the total of that particular row.

PARTITION BY is used to divide table on attribute categoryID which will find total amount of that particular category.

$\text{SUM}(\text{s.amount}) \text{ OVER } () \text{ AS GrandTotal}$

And above statement is to calculate the total sales which is referred as GrandTotal.

So we can see

SubTotal of CategoryID 1 = $100+200+400 = 700$

SubTotal of CategoryID 2 = $600+100 = 700$

Grand Total i.e Category 1 + Category 2 = $700 + 700 = 1400$

The above values we can check in results :

	categoryID	productName	salesdate	quantity	amount	CategoryTotal	GrandTotal
►	1	Table	2024-01-20	1	100.00	100.00	1400.00
	1	Chair	2024-01-21	2	200.00	300.00	1400.00
	1	Lamp	2024-01-22	4	400.00	700.00	1400.00
	2	Mirror	2024-01-23	6	600.00	600.00	1400.00
	2	Wardobe	2024-01-24	1	100.00	700.00	1400.00