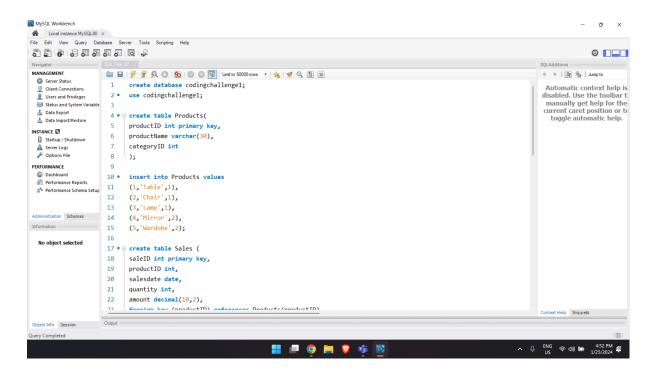
Name: Parth Nandedkar

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.



```
MySQL Workbench
                                                                                                                                                                                                              - o ×

    ★
    Local instance MySQL80 ×

    File
    Edit
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 @ ___
  MANAGEMENT

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   ANANACEMENT

Server Status

Client Connections

Libers and Privileges

Status and System Variable

Data Import/Restore

13 (3, 'Lamp',1),

Just Spate (4, 'Mirror', 2),
                                                                                                                                                                                                Automatic context help is
                                                                                                                                                                                               disabled. Use the toolbar t
manually get help for the
current caret position or to
toggle automatic help.
                          (3, Lamp',1),

14 (4, 'Mirror',2),

15 (5, 'Wardobe',2);
  INSTANCE 🕄
   Startup / Shutdown

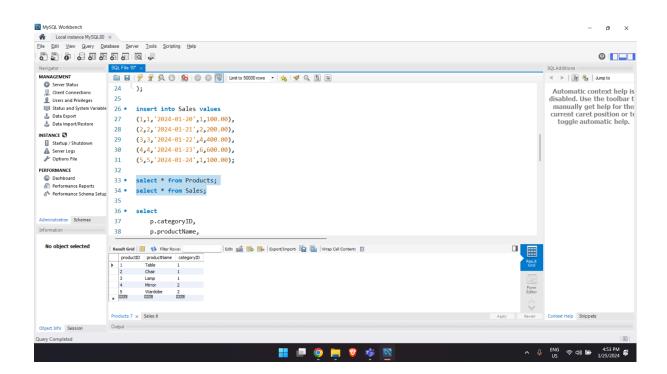
Server Logs

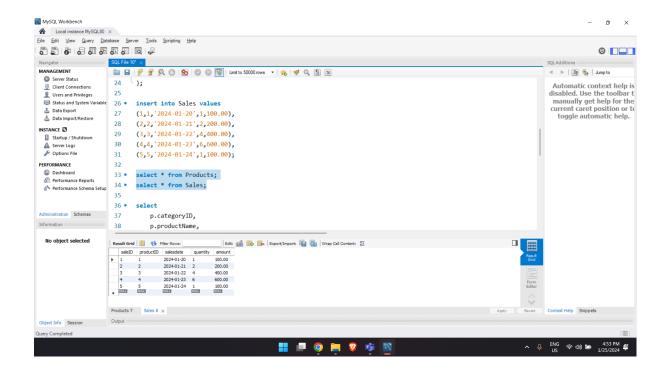
Options File
                             17 • ⊖ create table Sales (
  PERFORMANCE
                             18 saleID int primary key,
   Dashboard

Performance Reports

Performance Schema Setup
                             19
                                     productID int,
                                     salesdate date,
                             21
                                     quantity int,
                                     amount decimal(10,2),
                             22
       istration Schemas
                             23
                                     foreign key (productID) references Products(productID)
  Information
                             24
                             25
    No object selected
                             26 • insert into Sales values
                                     (1,1,'2024-01-20',1,100.00),
                             28
                                     (2,2,'2024-01-21',2,200.00),
                                     (3,3,'2024-01-22',4,400.00),
(4,4,'2024-01-23',6,600.00),
                             29
                                     (5,5,'2024-01-24',1,100.00);
                                                                                                                                                                                               Context Help Snippets
                                                                                          へ 単 ENG 奈 (4) (金 4:52 PM (単 1/25/2024 単
```

Tables are like:





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

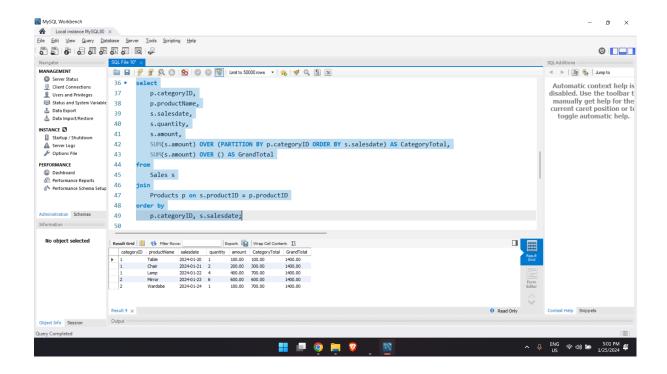
OVER and PARTITION BY clause are used together to perform analytical operations on data.

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

SUM(s.amount) OVER (PARTITION BY p.categoryID ORDER BY s.salesdate) 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 perticular category.

SUM(s.amount) OVER () AS GrandTotal

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

So we can see

SubTotal of CategoeyID 1 = 100+200+400 = 700 SubTotal of CategoeyID 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