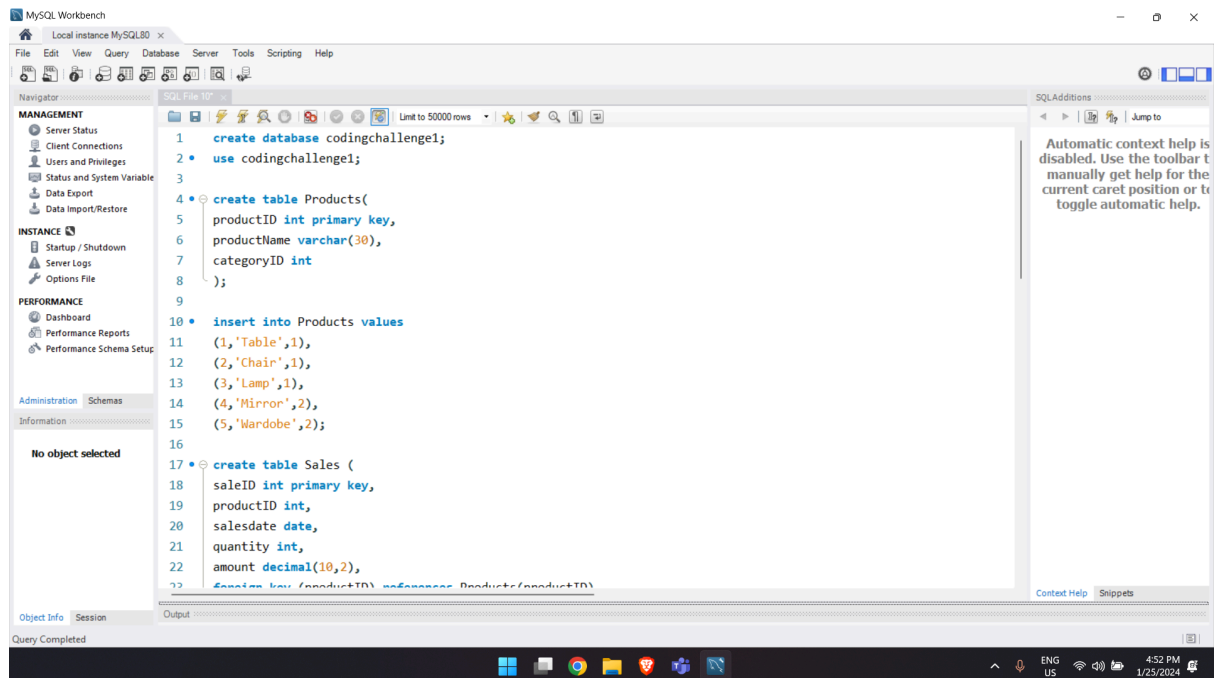


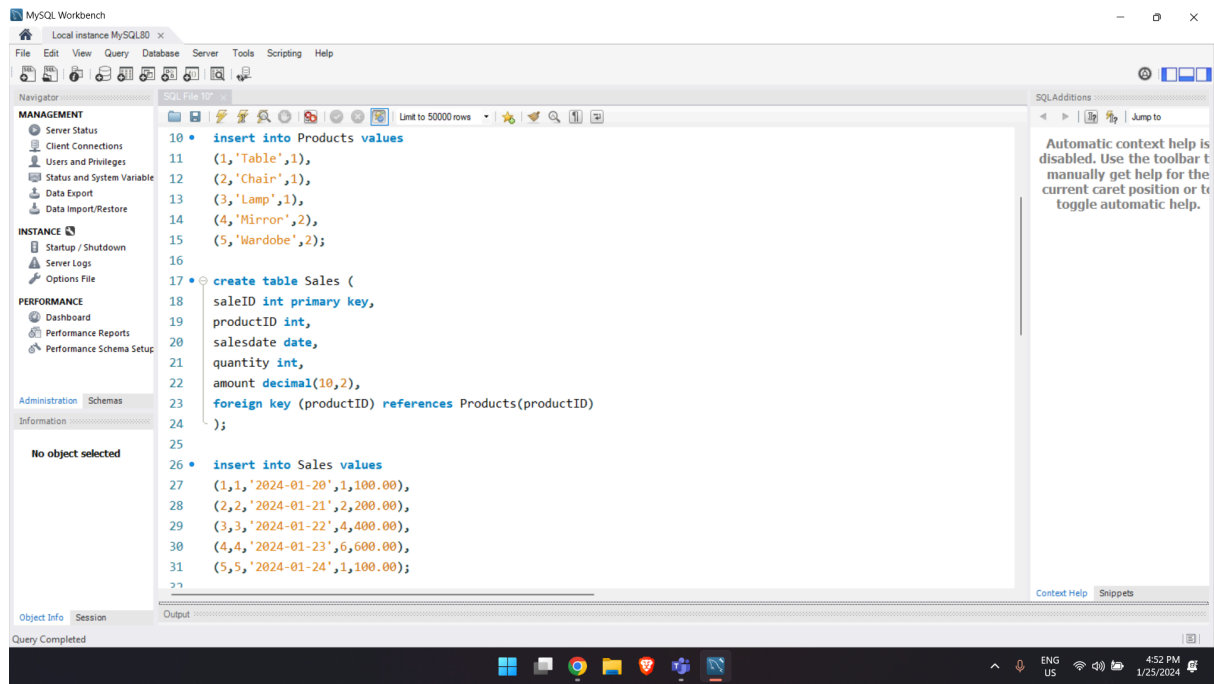
Name : Parth Nandedkar
Batch : Data Engineering Batch 1
Topic : **Coding Challenge Q2**

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

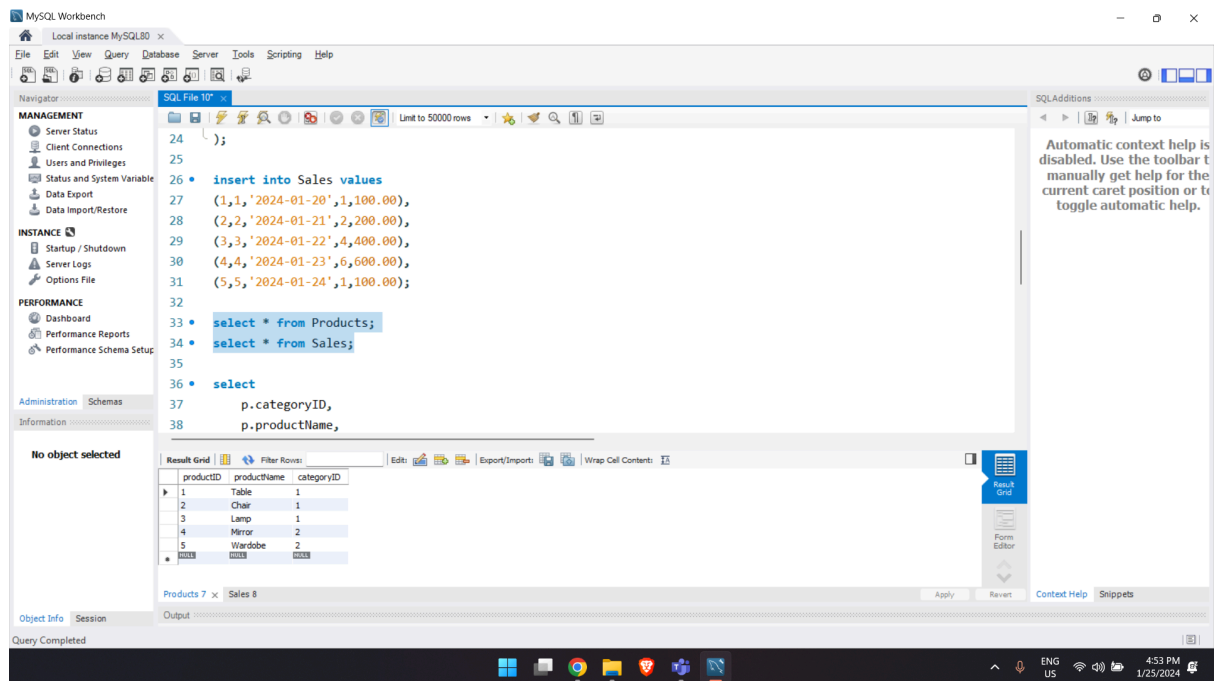
To use that database I used the '**use database_name**' command.

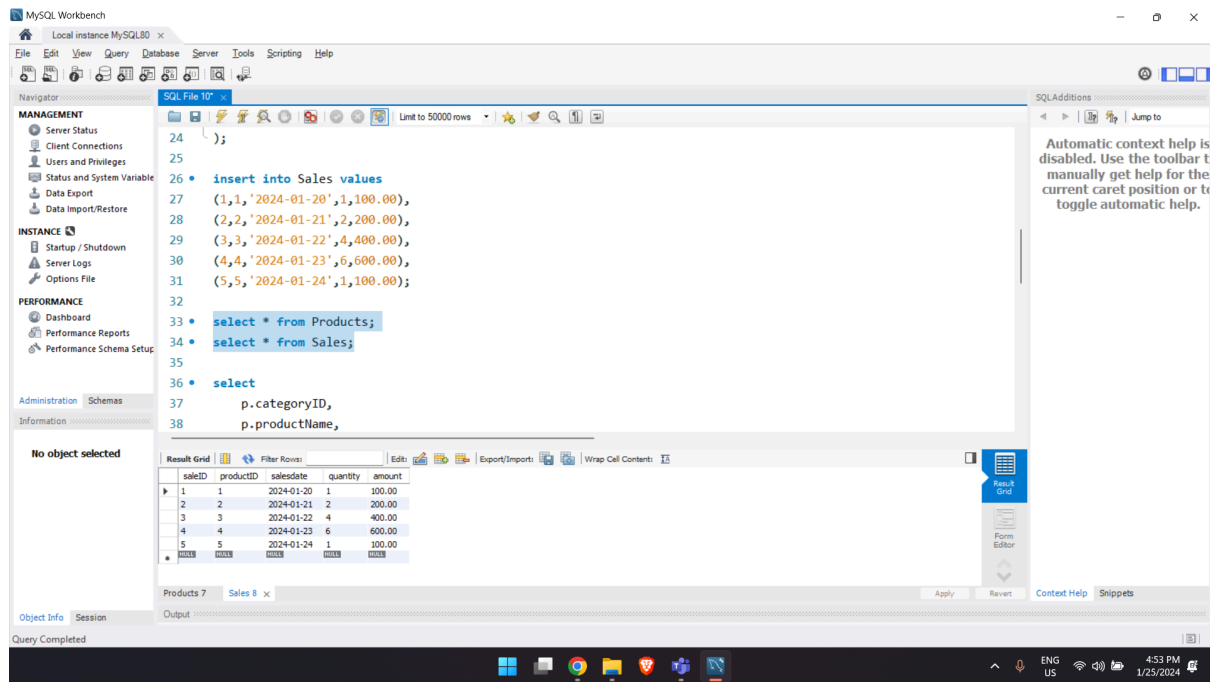
I have created 2 new tables named 'Products' and 'Sales' and added 5 rows of dummy data to perform operations on it.





Tables are like :





Q.2 Execute all the join with examples.

JOINS are used to connect the tables to get desired data.

According to applications there are multiple types of JOINS

I have used the above database to perform all the JOIN examples.

INNER JOIN :

When we need to retrieve the data which is common between two tables this join is used .

MySQL Workbench

Local instance MySQL80

SQL File 107

```

45 Sales s
46 join
47 Products p on s.productID = p.productID
48 order by
49 p.categoryID, s.salesdate;
50
51
52 -- INNER JOIN
53 • select * from Products
54 join Sales on Products.productID = Sales.productID;
55
56 -- LEFT JOIN
57 • select * from Products
58 left join Sales on Products.productID = Sales.productID;
59

```

Result Grid

productID	productName	categoryID	saleID	productID	salesdate	quantity	amount
1	Table	1	1	1	2024-01-20	1	100.00
2	Chair	1	2	2	2024-01-21	2	200.00
3	Lamp	1	3	3	2024-01-22	4	400.00
4	Mirror	2	4	4	2024-01-23	6	600.00
5	Wardrobe	2	5	5	2024-01-24	1	100.00

Result 10

Query Completed

As 5 values are common so there are 5 rows in the result

LEFT JOIN :

When we need all the data from the left table and common data from the second table we use the left join .

MySQL Workbench

Local instance MySQL80

SQL File 107

```

50
51
52 -- INNER JOIN
53 • select * from Products
54 join Sales on Products.productID = Sales.productID;
55
56 -- LEFT JOIN
57 • select * from Products
58 left join Sales on Products.productID = Sales.productID;
59
60 -- RIGHT JOIN
61 • select * from Products
62 right join Sales on Products.productID = Sales.productID;
63
64 -- CROSS JOIN

```

Result Grid

productID	productName	categoryID	saleID	productID	salesdate	quantity	amount
1	Table	1	1	1	2024-01-20	1	100.00
2	Chair	1	2	2	2024-01-21	2	200.00
3	Lamp	1	3	3	2024-01-22	4	400.00
4	Mirror	2	4	4	2024-01-23	6	600.00
5	Wardrobe	2	5	5	2024-01-24	1	100.00

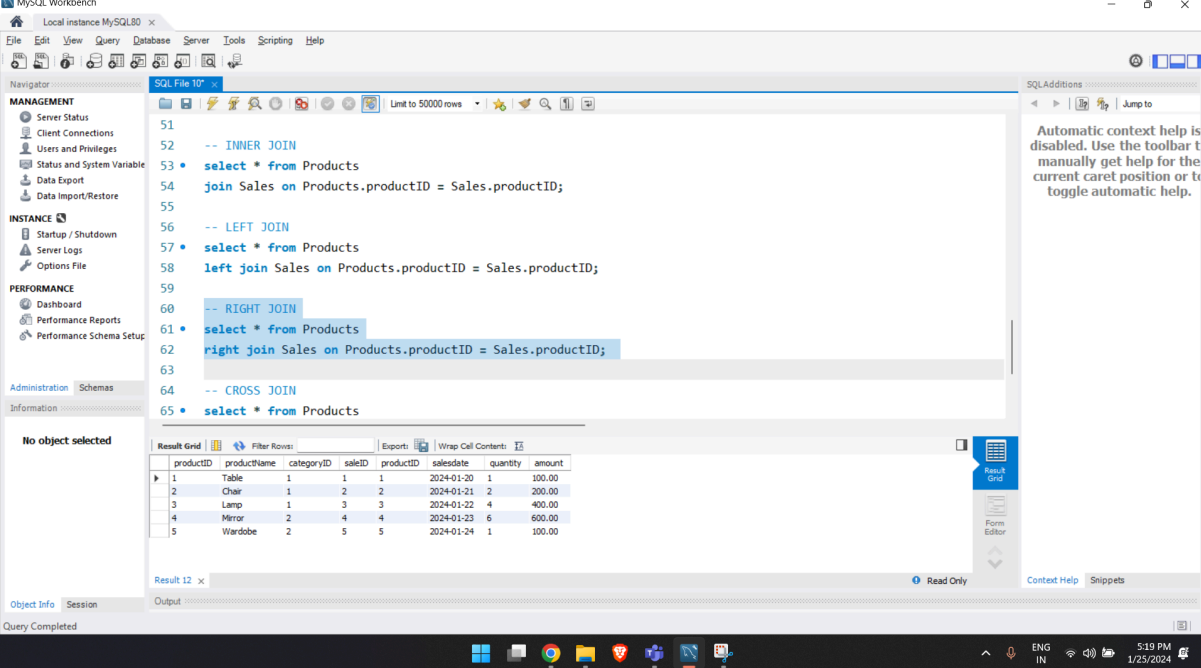
Result 11

Query Completed

As there are no values which are uncommon so result has 5 rows .

RIGHT JOIN :

When we need all the data from the right table and common data from the second table we use the right join .



The screenshot shows the MySQL Workbench interface with a SQL editor containing four queries. The third query, labeled "-- RIGHT JOIN", is highlighted. Below the editor, the "Result Grid" displays the results of the selected query, showing 5 rows of data. The right sidebar contains a "SQLAdditions" panel with a message about automatic context help.

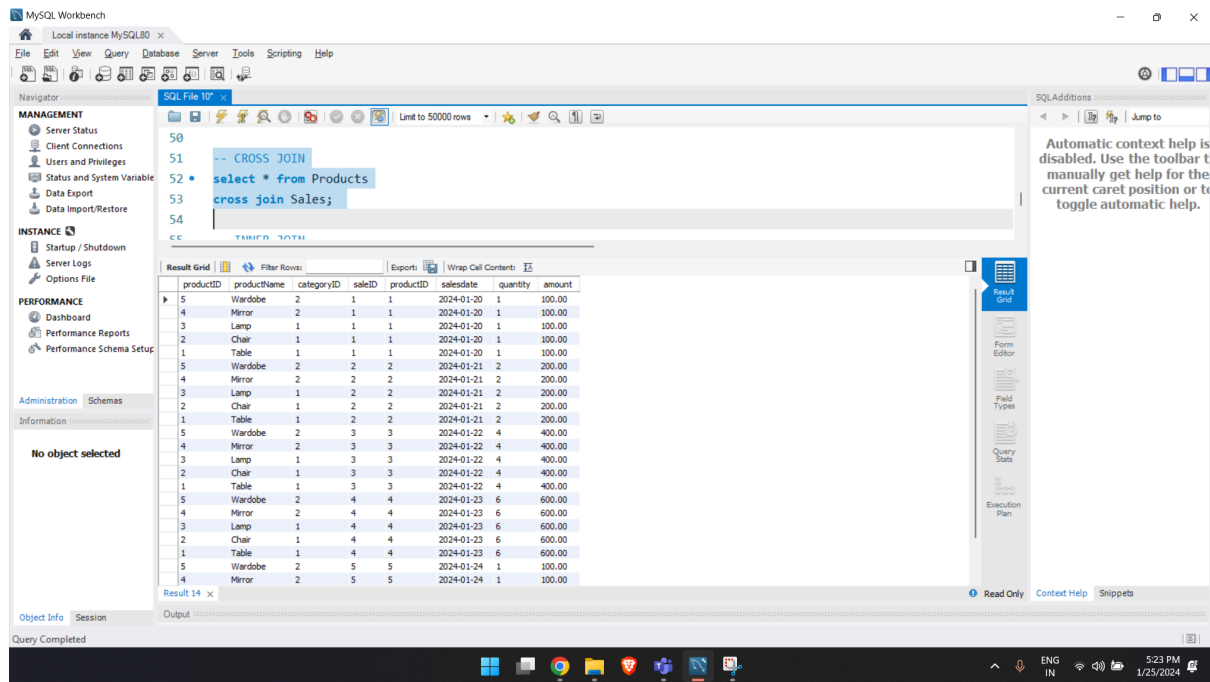
```
51
52 -- INNER JOIN
53 * select * from Products
54 join Sales on Products.productID = Sales.productID;
55
56 -- LEFT JOIN
57 * select * from Products
58 left join Sales on Products.productID = Sales.productID;
59
60 -- RIGHT JOIN
61 * select * from Products
62 right join Sales on Products.productID = Sales.productID;
63
64 -- CROSS JOIN
65 * select * from Products
```

productID	productName	categoryID	saleID	productID	salesdate	quantity	amount
1	Table	1	1	1	2024-01-20	1	100.00
2	Chair	1	2	2	2024-01-21	2	200.00
3	Lamp	1	3	3	2024-01-22	4	400.00
4	Mirror	2	4	4	2024-01-23	6	600.00
5	Wardrobe	2	5	5	2024-01-24	1	100.00

As there are no values which are uncommon so the result has 5 rows .

CROSS JOIN :

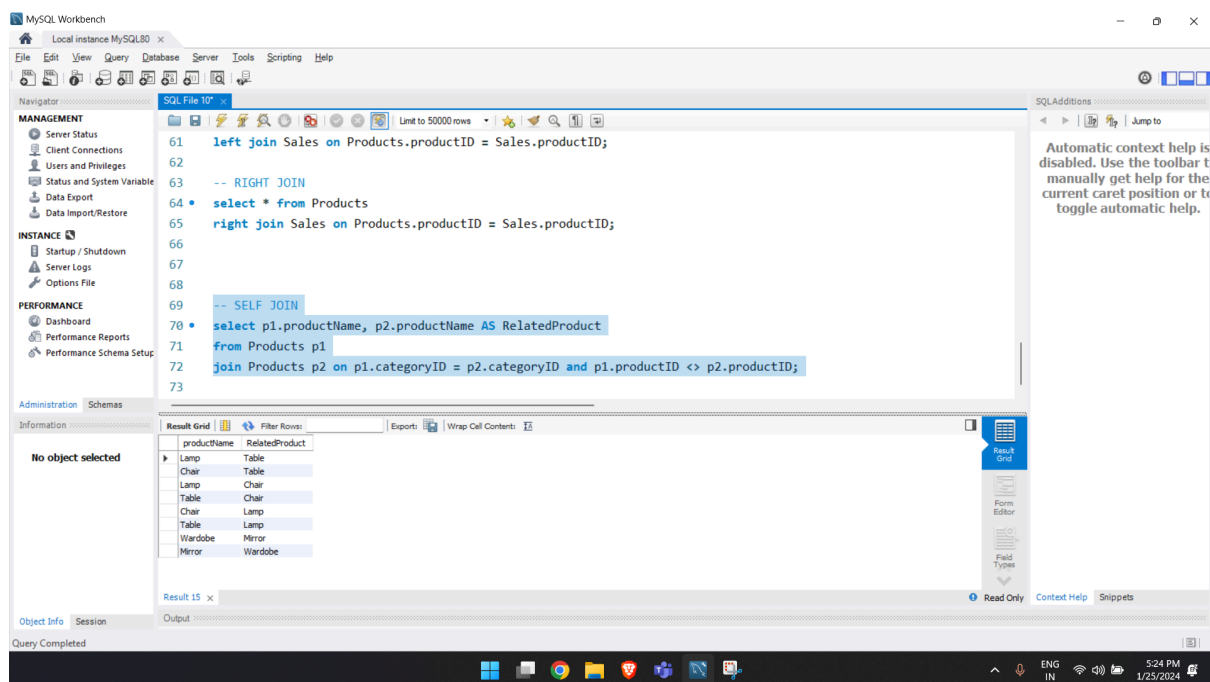
Cross join is used when we need to compare each attribute of first table with all the attributes of second table .



As there are 5 values in both the table comparing each with each gives 25 results.

SELF JOIN :

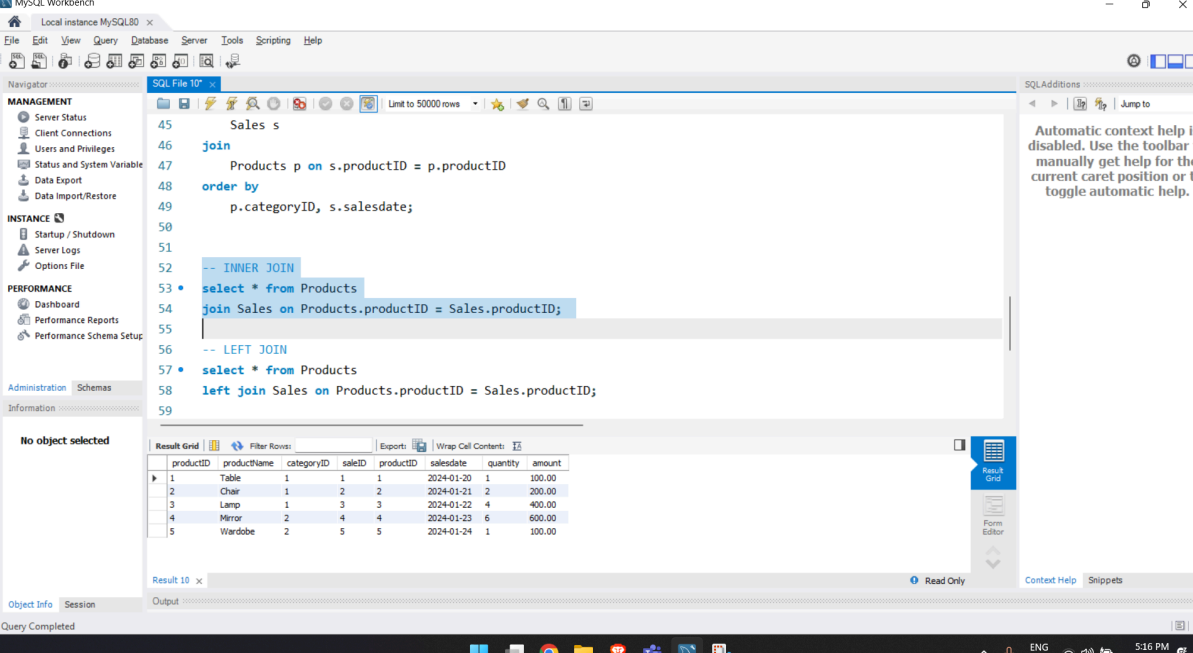
This type of join is used when we need to compare attributes of same table.



In the above example if the products have the same categoryID and different productID then they are compared .

EQUI JOIN :

This type of join is used when condition is based on equal to values ‘=’



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
45 Sales s
46 join
47 Products p on s.productID = p.productID
48 order by
49 p.categoryID, s.salesdate;
50
51
52 -- INNER JOIN
53 * select * from Products
54 join Sales on Products.productID = Sales.productID;
55
56 -- LEFT JOIN
57 * select * from Products
58 left join Sales on Products.productID = Sales.productID;
59
```

The Result Grid shows the following data:

productID	productName	categoryID	saleID	productID	salesdate	quantity	amount
1	Table	1	1	1	2024-01-20	1	100.00
2	Chair	1	2	2	2024-01-21	2	200.00
3	Lamp	1	3	3	2024-01-22	4	400.00
4	Mirror	2	4	4	2024-01-23	6	600.00
5	Wardrobe	2	5	5	2024-01-24	1	100.00

NON EQUI JOIN :

This type of join is used when condition is based on not equal to values ‘<>’

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
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- Status and System Variable
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- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

Information

No object selected

SQL File 10*

```
61 left join Sales on Products.productID = Sales.productID;
62
63 -- RIGHT JOIN
64 * select * from Products
65 right join Sales on Products.productID = Sales.productID;
66
67
68
69 -- SELF JOIN
70 * select p1.productName, p2.productName AS RelatedProduct
71 from Products p1
72 join Products p2 on p1.categoryID = p2.categoryID and p1.productID <> p2.productID;
73
```

Result Grid

productName	RelatedProduct
Lamp	Table
Chair	Table
Lamp	Chair
Table	Chair
Chair	Lamp
Table	Lamp
Wardrobe	Mirror
Mirror	Wardrobe

Result 15 x

Object Info Session Output

Query Completed

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

ENG IN 5:24 PM 1/25/2024