A dark blue vertical bar runs down the left side of the page. A blue arrow points to the right from the bar, containing the date.

20/06/2023

SQL Assignment

Atikur Rahaman

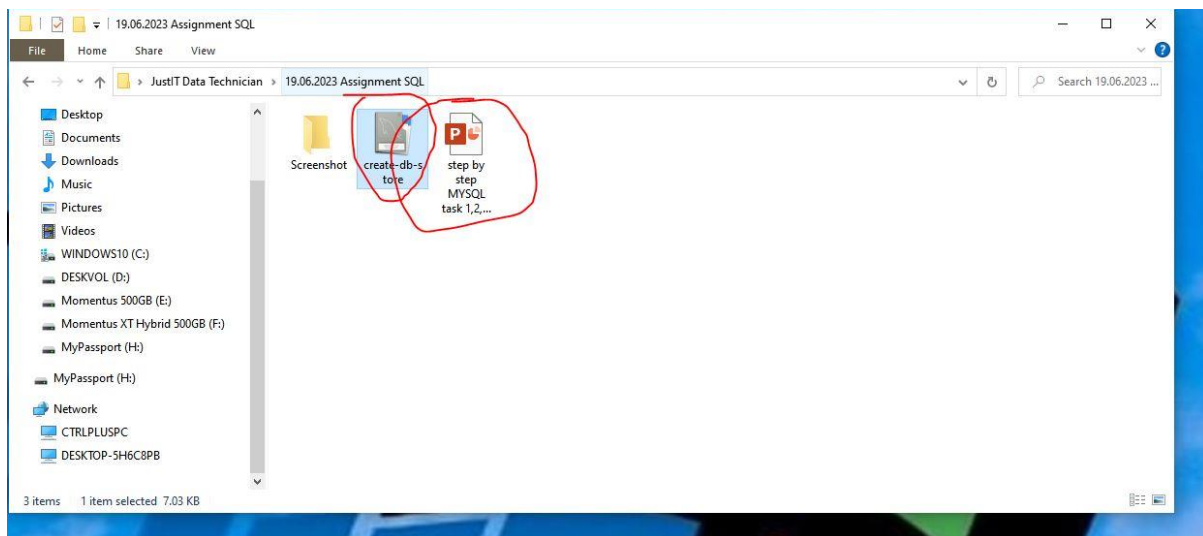
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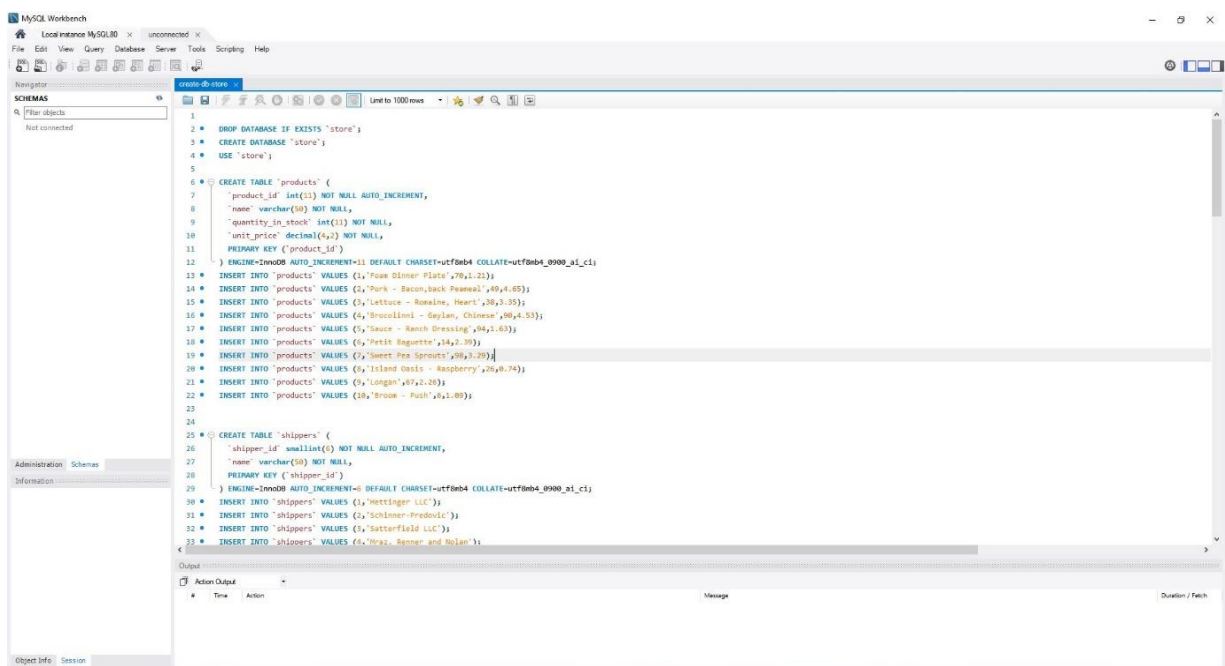
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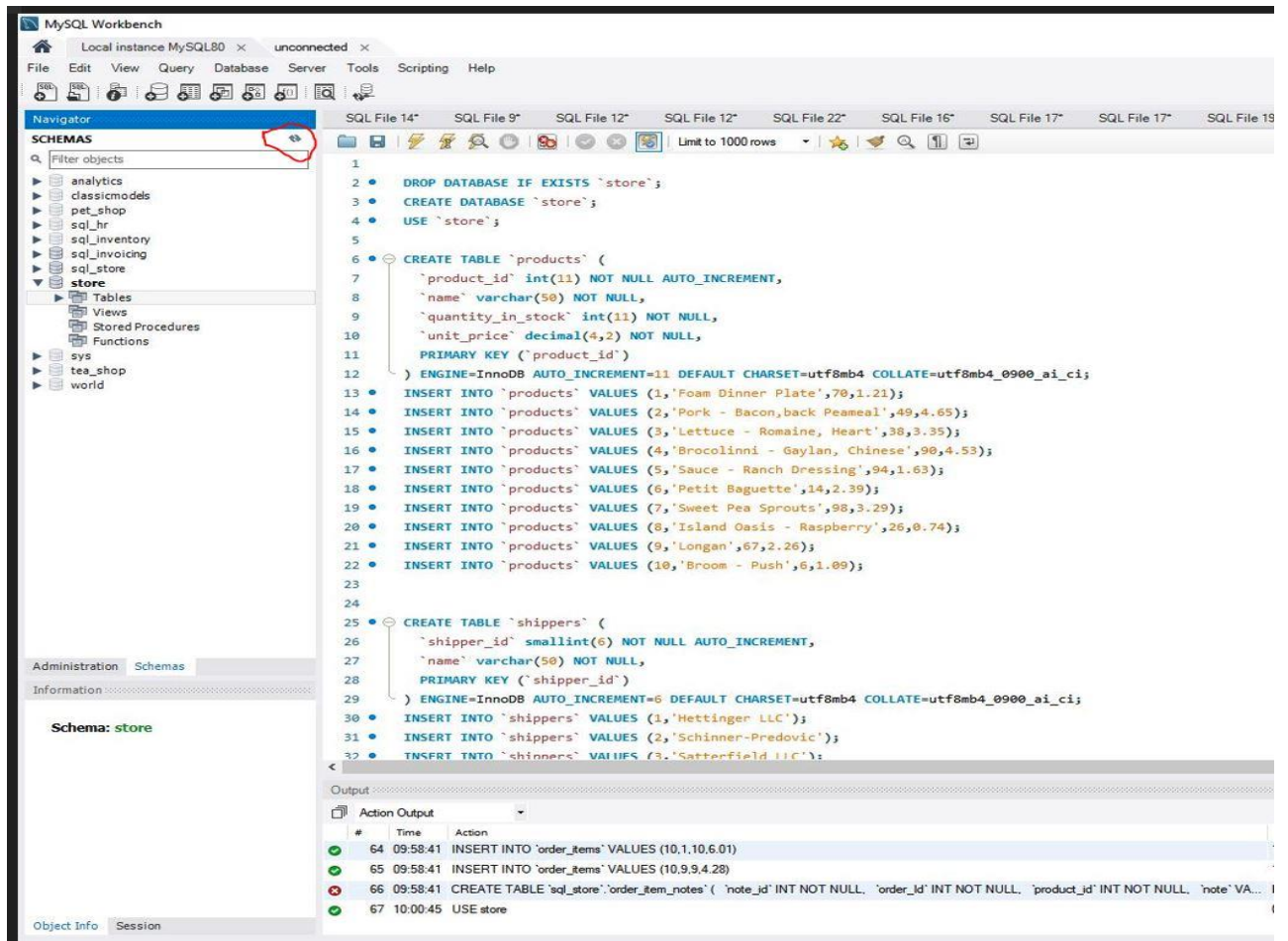
1. Downloaded the database and Instruction file.



2. I've run the database by double clicking on file called create-db-store and then copied all the queries by pressing Ctrl+a from the keyboard and pasted it by pressing Ctrl+v in a new query tab.



Finally refreshed the database by clicking the refresh button from the navigation panel to make sure that 'store' database has been created.

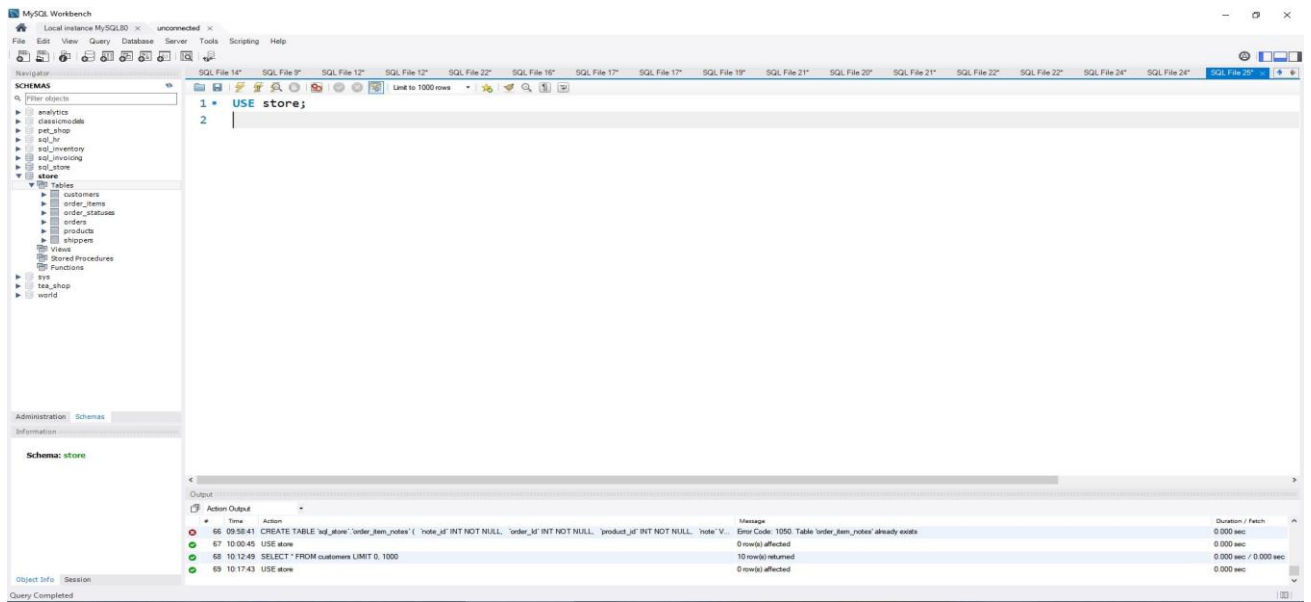


Query 1

Connect to the database and view the customer table.

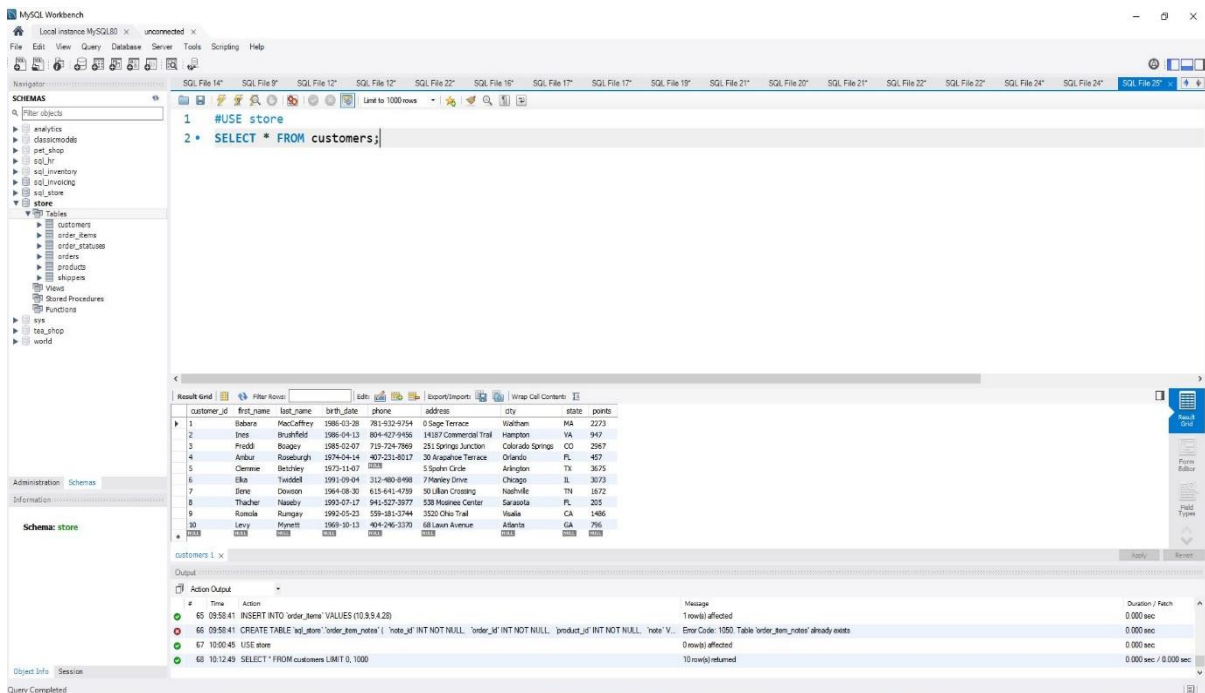
USE store;

(I have used USE statement to connect the database to follow up the tasks)



SELECT * FROM customers;

I have used SELECT statement to see all the columns within customer table for me to get familiar with columns and data.



Query 1 Continued...

Arrange first_name in ascending order.

Ans: SELECT * FROM customers ORDER BY first_name;

By default, MySQL sort the result in Ascending order. That's why I didn't include ASC at the end of the statement.

MySQL Workbench

Local instance MySQL80 x unconnected x

File Edit View Query Database Server Tools Scripting Help

Navigator

SQL File 14" SQL File 9" SQL File 12" SQL File 12" SQL File 22" SQL File 15" SQL File 17" SQL File 17" SQL File 19" SQL File 21" SQL File 20" SQL File 21" SQL File 22" SQL File 24" SQL File 24" SQL File 24" SQL File 25"

Limit to 1000 rows

1. USE store;
2. SELECT * FROM customers;
3. SELECT * FROM customers ORDER BY first_name;

Result Grid

customer_id	first_name	last_name	birth_date	phone	address	city	state	points
4	Anna	Rosenburg	1974-04-14	407-551-8017	30 Angeline Terrace	Orlando	FL	457
1	Isabella	MacCaffrey	1986-03-28	761-632-9754	0 Sage Terrace	Waltham	MA	2273
5	Clemmie	Bethley	1973-11-07		5 Spohn Circle	Arlington	TX	3675
6	Ella	Tweedell	1991-09-04	312-480-8988	7 Marley Drive	Chicago	IL	3073
3	Fredrik	Boagsey	1985-02-07	719-724-7869	251 Springs Junction	Colorado Springs	CO	2967
7	Diana	Orison	1964-08-30	615-644-4759	50 Urban Crossing	Nashville	TN	1672
2	Dora	Brusfield	1986-04-13	804-427-9456	14187 Commercial Trail	Hampton	VA	947
10	Levy	Myrrett	1969-10-13	404-246-3330	68 Lawn Avenue	Atlanta	GA	796
9	Romola	Rumgay	1992-05-23	559-881-3744	3520 Ohio Trail	Visalia	CA	1486
8	Thatcher	Harvey	1992-07-17	941-527-3977	538 Rosemead Center	Sarasota	FL	225

customers 3 x

Output

#	Time	Action	Message	Duration / Fetch
68	10:12:49	SELECT * FROM customers LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
69	10:17:43	USE store	0 row(s) affected	0.000 sec
70	10:20:17	SELECT * FROM customers ORDER BY first_name LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
71	10:22:03	SELECT * FROM customers ORDER BY first_name LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Query Completed

Query 2: Create a new query to find all the customers with a birth date of > '1990-01-01'.

Ans: SELECT * FROM customers WHERE birth_date > '1990-01-01'

I had to put date inside quotation mark to make it readable to SQL. Otherwise, MySQL may think it is for calculation.

MySQL Workbench

Local instance MySQL80 x unconnected x

File Edit View Query Database Server Tools Scripting Help

Navigator

SQL File 14" SQL File 9" SQL File 12" SQL File 12" SQL File 22" SQL File 15" SQL File 17" SQL File 17" SQL File 19" SQL File 21" SQL File 20" SQL File 21" SQL File 22" SQL File 24" SQL File 24" SQL File 24" SQL File 25"

Limit to 1000 rows

1. USE store;
2. SELECT * FROM customers;
3. SELECT * FROM customers ORDER BY first_name;
4.
5. #Create a new query to find all the customers with a birth date of > '1990-01-01'
6.
7. SELECT * FROM customers
8. WHERE birth_date > '1990-01-01';

Result Grid

customer_id	first_name	last_name	birth_date	phone	address	city	state	points
6	Ella	Tweedell	1991-09-04	312-480-8988	7 Marley Drive	Chicago	IL	3073
8	Thatcher	Harvey	1992-07-17	941-527-3977	538 Rosemead Center	Sarasota	FL	225
9	Romola	Rumgay	1992-05-23	559-881-3744	3520 Ohio Trail	Visalia	CA	1486

customers 4 x

Output

#	Time	Action	Message	Duration / Fetch
68	10:17:43	USE store	0 row(s) affected	0.000 sec
70	10:20:17	SELECT * FROM customers ORDER BY first_name LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
71	10:22:03	SELECT * FROM customers ORDER BY first_name LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
72	10:24:09	SELECT * FROM customers WHERE birth_date > '1990-01-01' LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

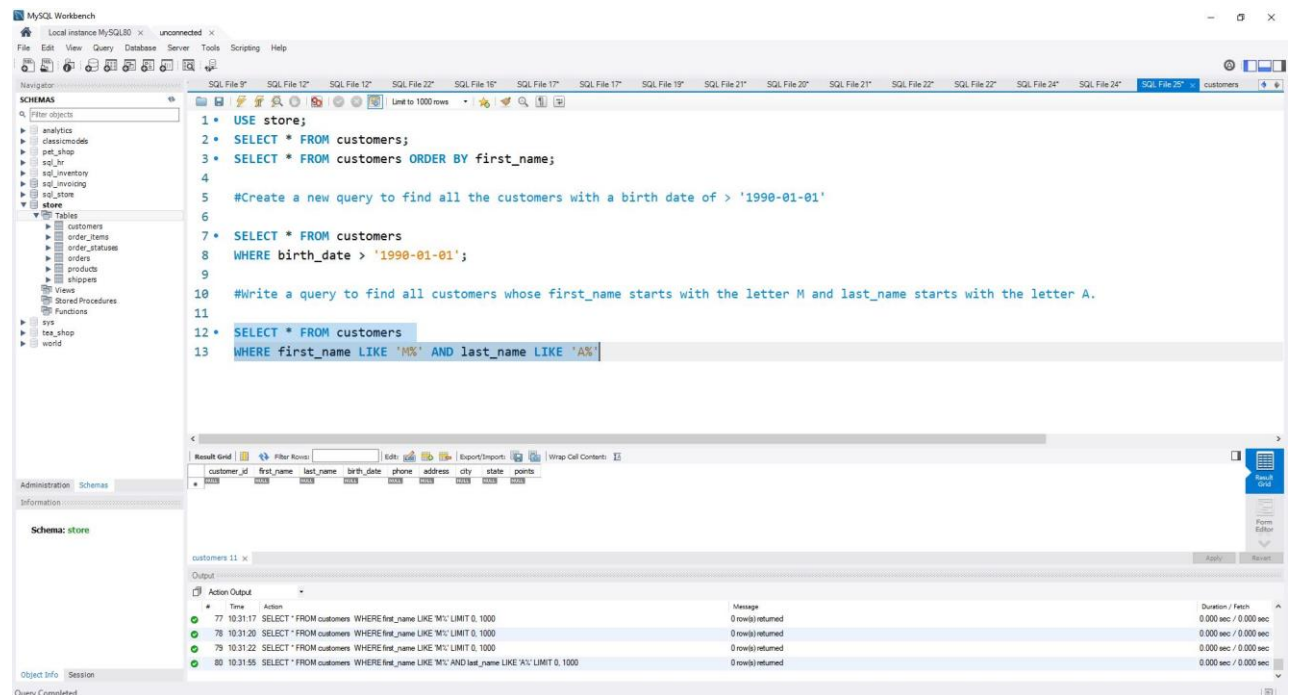
Query Completed

Query 3.1

Write a query to find all customers whose first_name starts with the letter M and last_name starts with the letter A.

Ans: `SELECT * FROM customers WHERE first_name LIKE 'M%' AND last_name LIKE 'A%';`

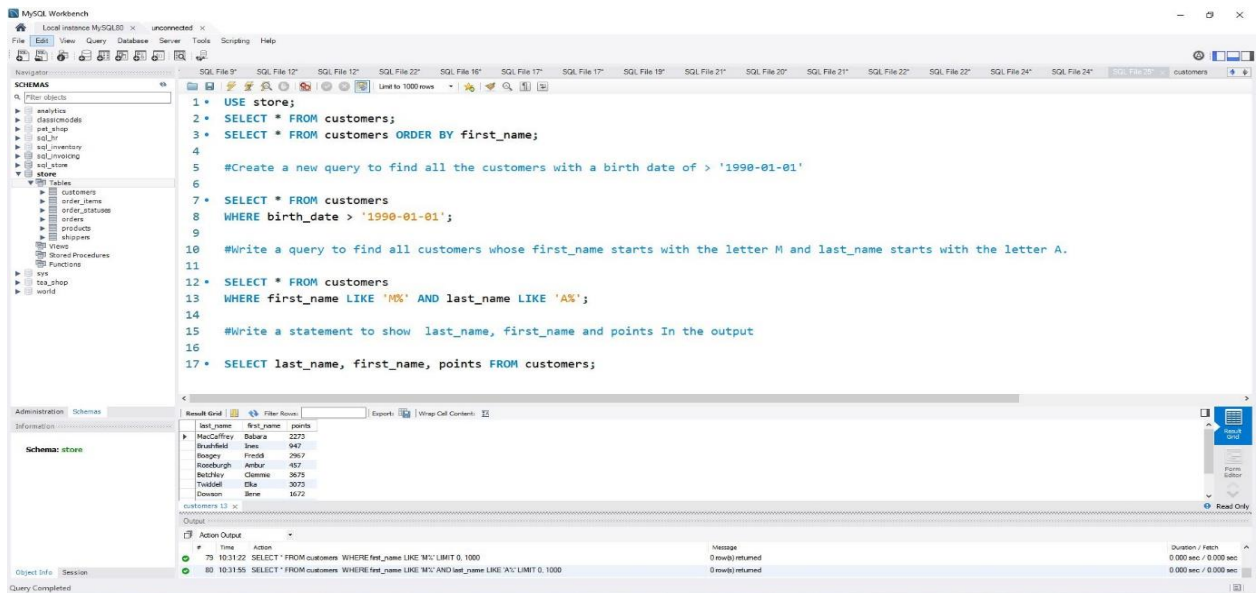
There was NO Customers with that name conditions. So, it pulls NULL value. But syntax wise it is correct. I have tested it with other characters.



Query 3.2: Write a statement to show last_name, first_name and points in the output

Ans: `SELECT last_name, first_name, points FROM customers;`

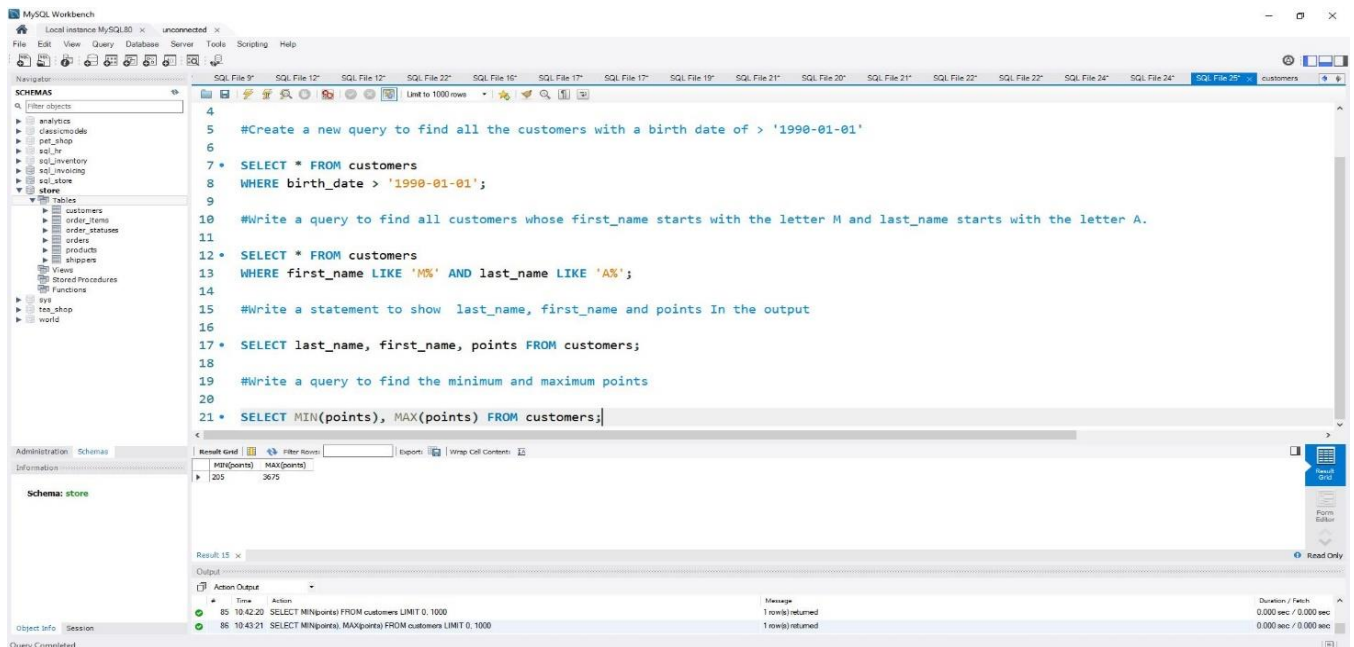
I have used SELECT statement and specify the name of the columns that I was asked to retrieve from the 'customers' table.



Task 3: Write a query to find the minimum and maximum points

Ans: SELECT MIN(points), MAX(points) FROM customers;

I've used MIN() and MAX() Functions to perform this query.



Additional Queries 1:

RETURN products with quantity_in_stock equal to 70,90,26

Ans: SELECT * FROM products WHERE quantity_in_stock IN (70,90,26);

I used IN operator to perform this query.

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'store' expanded, showing tables like 'customers', 'order_items', 'order_statuses', 'orders', 'products', and 'shippers'. The main editor contains the following SQL code:

```
15 #Write a statement to show last_name, first_name and points in the output
16
17 * SELECT last_name, first_name, points FROM customers;
18
19 #Write a query to find the minimum and maximum points
20
21 * SELECT MIN(points), MAX(points) FROM customers;
22
23 #Additional Query RETURN products with quantity_in_stock equal to 70,90,26
24
25 * SELECT * FROM products
26 WHERE quantity_in_stock IN (70,90,26)
27
28 #Find out out order_id 2 from order_items table based on their total_price (quantity * unit_price) desc or
29
30 * SELECT *, quantity * unit_price as total_price
31 FROM order_items WHERE order_id = 2
32 ORDER BY total_price DESC;
```

The 'Result Grid' shows the output of the query executed in line 32:

order_id	product_id	quantity	unit_price	total_price
2	1	2	9.10	18.20
2	4	4	1.66	6.64
2	6	2	2.94	5.88

The 'Table: order_items' section shows the following columns and data types:

Column	Data Type
order_id	int AI PK
product_id	int PK
quantity	int
unit_price	decimal(4,2)

Additional queries 2:

Select order_id '2' from order_items table based on their total_price (quantity * unit_price) and sort them desc order.

Ans: SELECT *, quantity * unit_price AS total_price

FROM order_items WHERE order_id = 2

ORDER BY total_price DESC;

There was no total_price column in the table. So I used total_price as an ALIAS

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'store' expanded. The main editor contains the following SQL code:

```
18
19 #Write a query to find the minimum and maximum points
20
21 * SELECT MIN(points), MAX(points) FROM customers;
22
23 #Additional Query RETURN products with quantity_in_stock equal to 70,90,26
24
25 * SELECT * FROM products
26 WHERE quantity_in_stock IN (70,90,26)
27
28 #Select order_id 2 from order_items table based on their total_price (quantity * unit_price) and sort them desc order
29
30 * SELECT * FROM order_items;
31
32 * SELECT *, quantity * unit_price as total_price
33 FROM order_items WHERE order_id = 2
34 ORDER BY total_price DESC;
35
```

The 'Result Grid' shows the output of the query executed in line 34:

order_id	product_id	quantity	unit_price	total_price
2	1	2	9.10	18.20
2	4	4	1.66	6.64
2	6	2	2.94	5.88

The 'Table: order_items' section shows the following columns and data types:

Column	Data Type
order_id	int AI PK
product_id	int PK
quantity	int
unit_price	decimal(4,2)

Additional Query 3:

Write a query to produce a report with customer_id, first_name, last_name, points and type.

Type column doesn't exist in customer's table. So, we have to calculate this column with the values by following the below conditions

Points less than 2,000 'Bronze'

Points between 2,000 and 3,000 'Silver' and

Points more than 3,000 'Gold'

Ans: SELECT customer_id, first_name, last_name, points, 'Bronze' as type

FROM customers

WHERE points > 2000

UNION

SELECT customer_id, first_name, last_name, points, 'Silver' as type

FROM customers

WHERE points between 2000 and 3000

UNION

SELECT customer_id, first_name, last_name, points, 'Gold' as type

FROM customers

WHERE points > 3000;

I have used **UNION** clause to produce and combine this report.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains a query that uses the UNION clause to combine data from the customers table based on their points. The query is as follows:

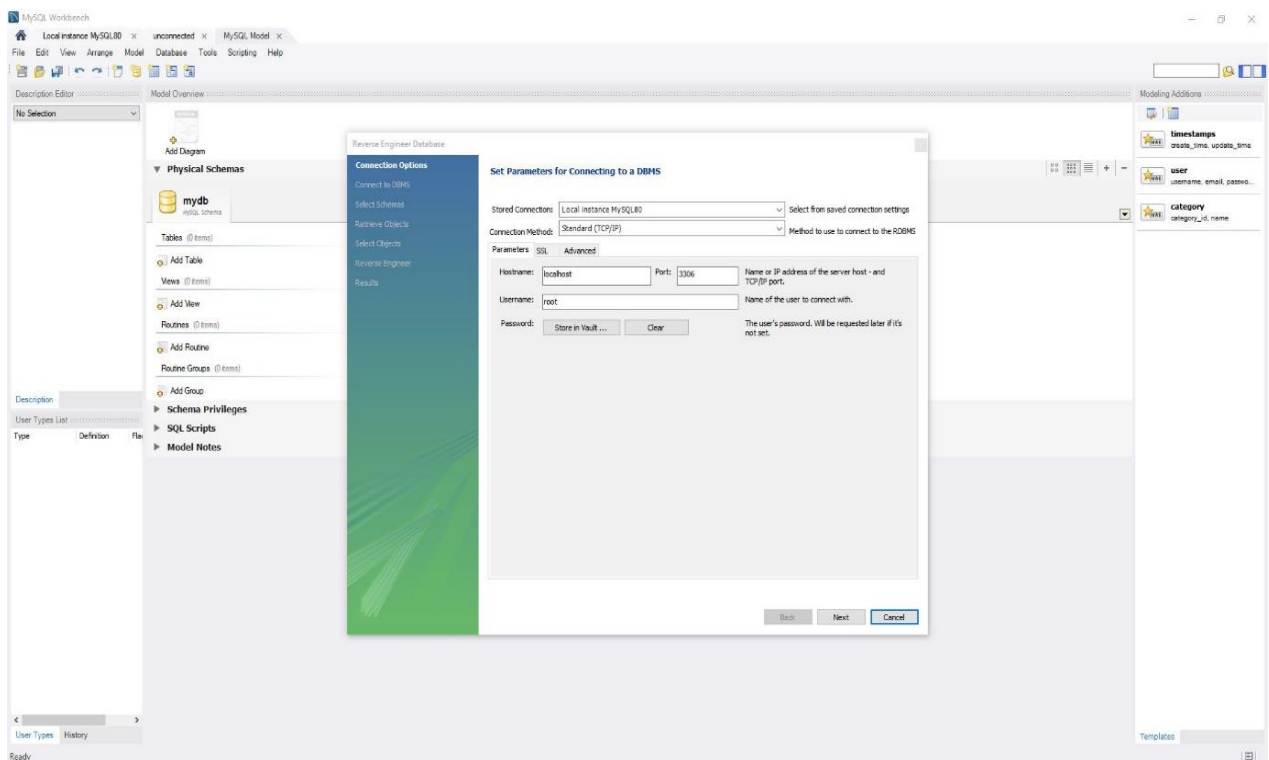
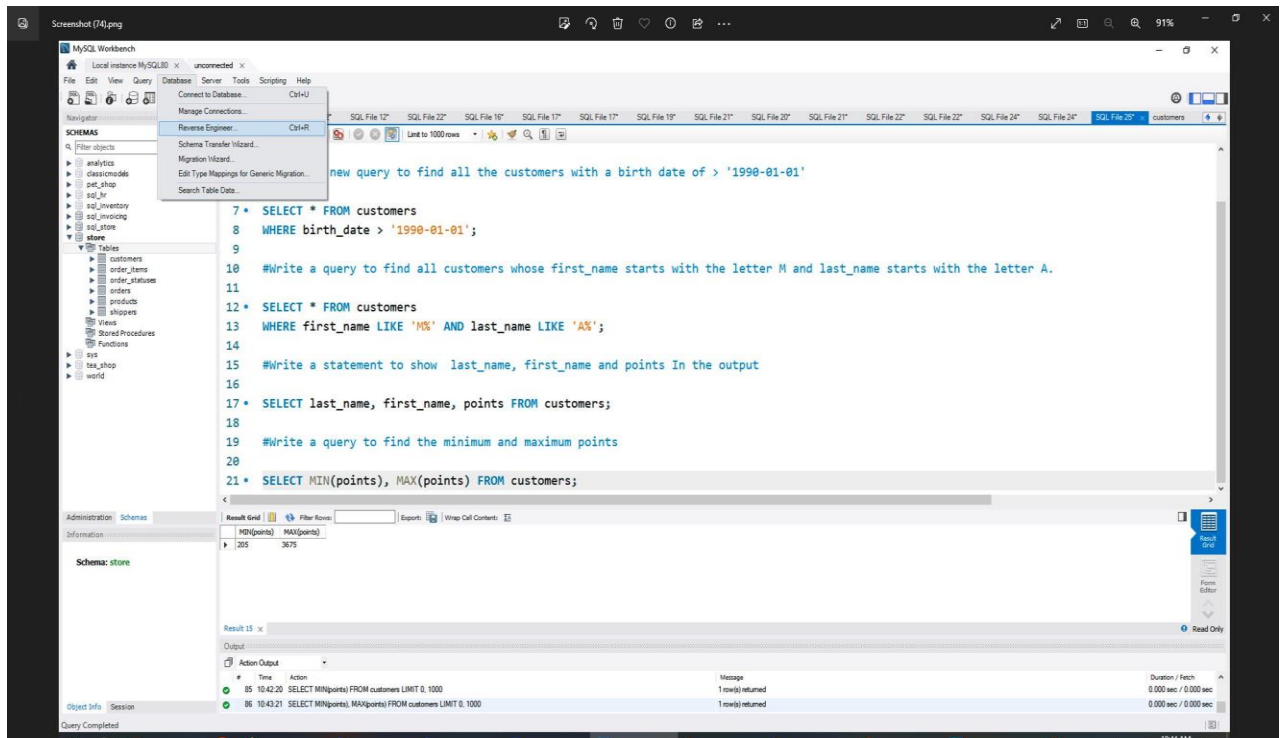
```
38 points between 2,000 and 3,000 'Silver' and
39 points more than 3,000 'Gold'
40
41 SELECT customer_id, first_name, last_name, points, 'Bronze' as type
42 FROM customers
43 WHERE points > 2000
44 UNION
45 SELECT customer_id, first_name, last_name, points, 'Silver' as type
46 FROM customers
47 WHERE points between 2000 and 3000
48 UNION
49 SELECT customer_id, first_name, last_name, points, 'Gold' as type
50 FROM customers
51 WHERE points > 3000;
52
53 #primary keys
54 customers(customer_id)
```

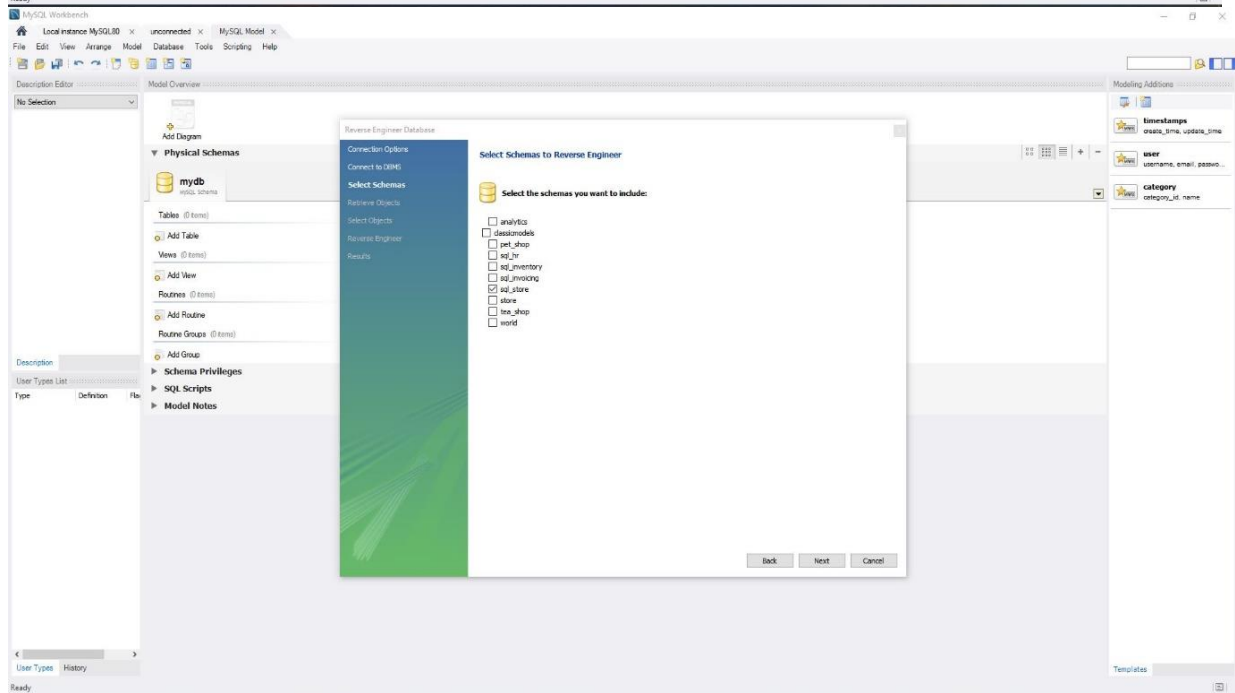
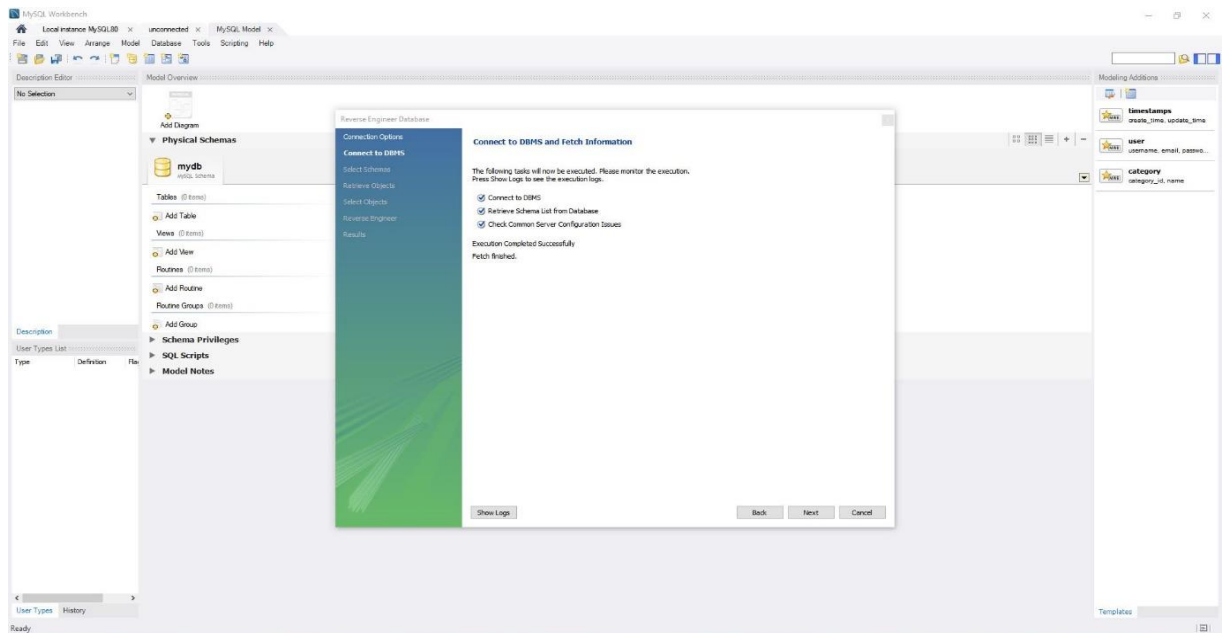
The Results Grid shows the output of the query, displaying columns: customer_id, first_name, last_name, points, and type. The data is as follows:

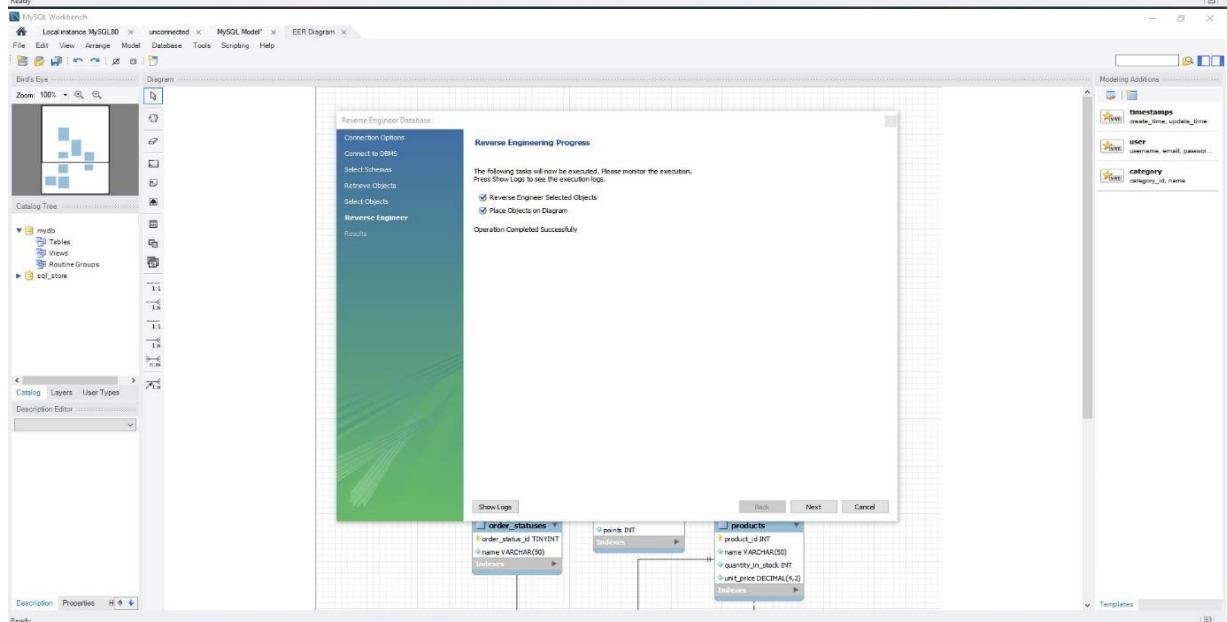
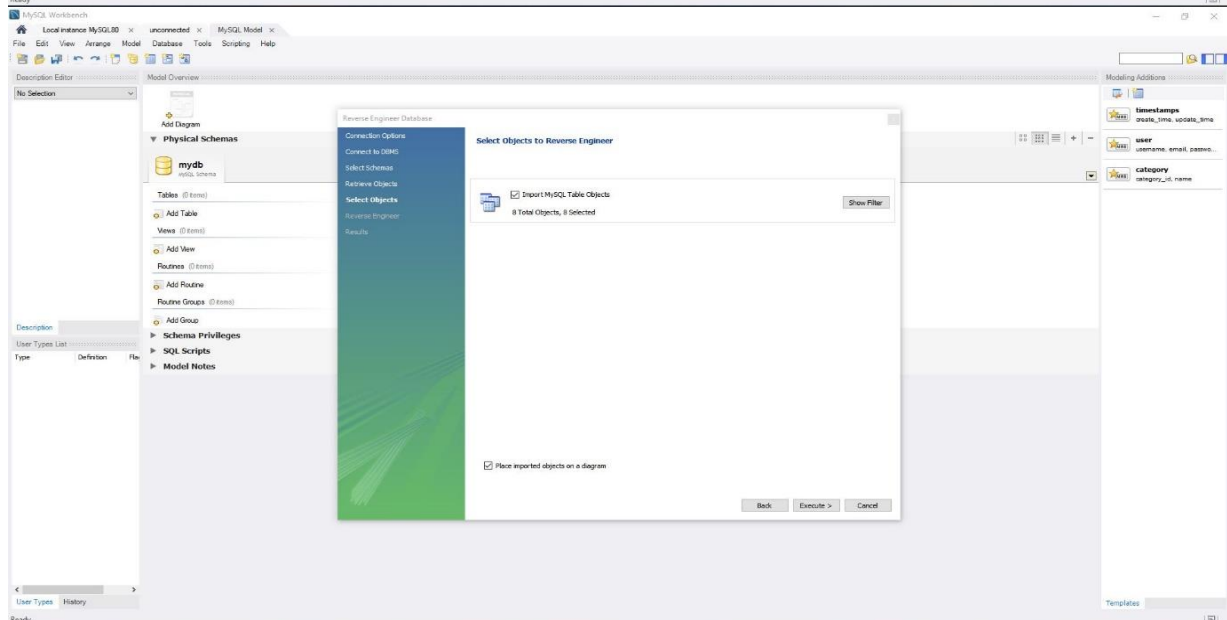
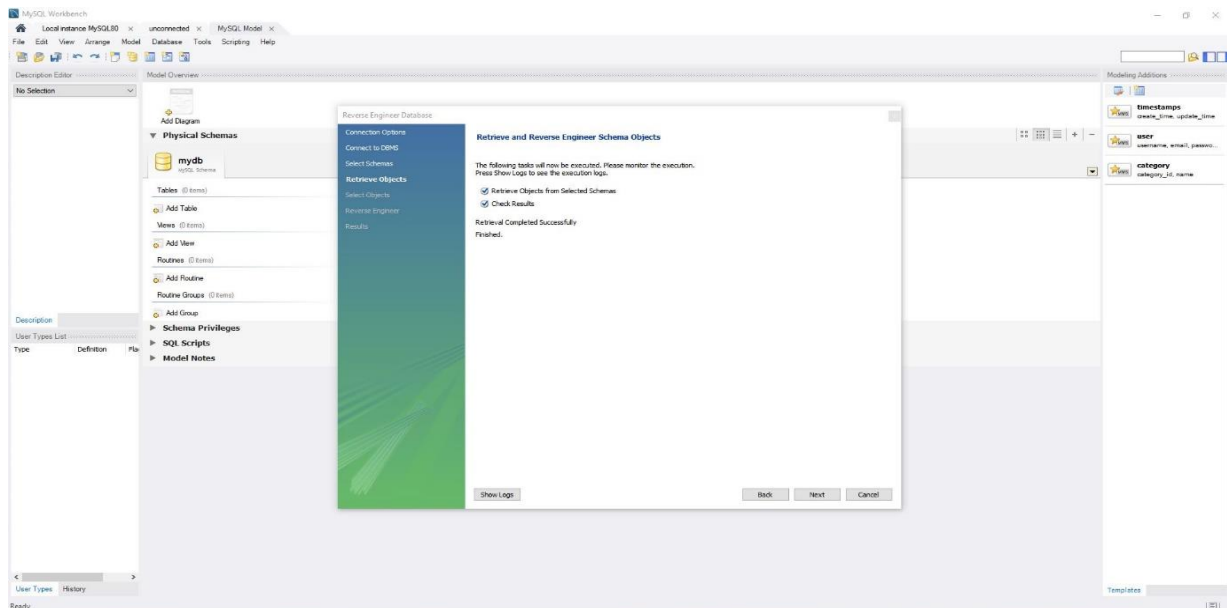
customer_id	first_name	last_name	points	type
1	MacCaffrey	2273	Bronze	
3	Freddie	Boagey	2967	Bronze
5	Clemmie	Betchley	3675	Bronze
6	Elka	Twiddell	3073	Bronze
1	Babara	MacCaffrey	2273	Silver
3	Freddie	Boagey	2967	Silver
5	Clemmie	Betchley	3675	Gold
6	Elka	Twiddell	3073	Gold

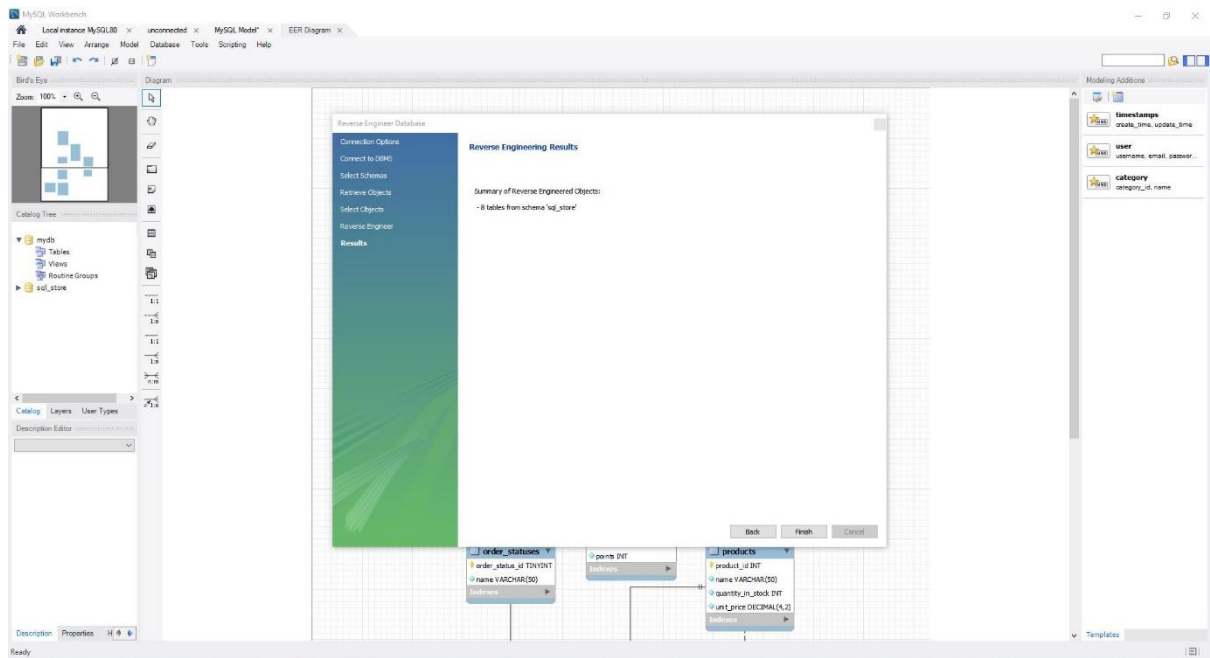
Creating an EER Diagram

Followings are the Screenshots of all the steps of creating an EER Diagram









EER Diagram

