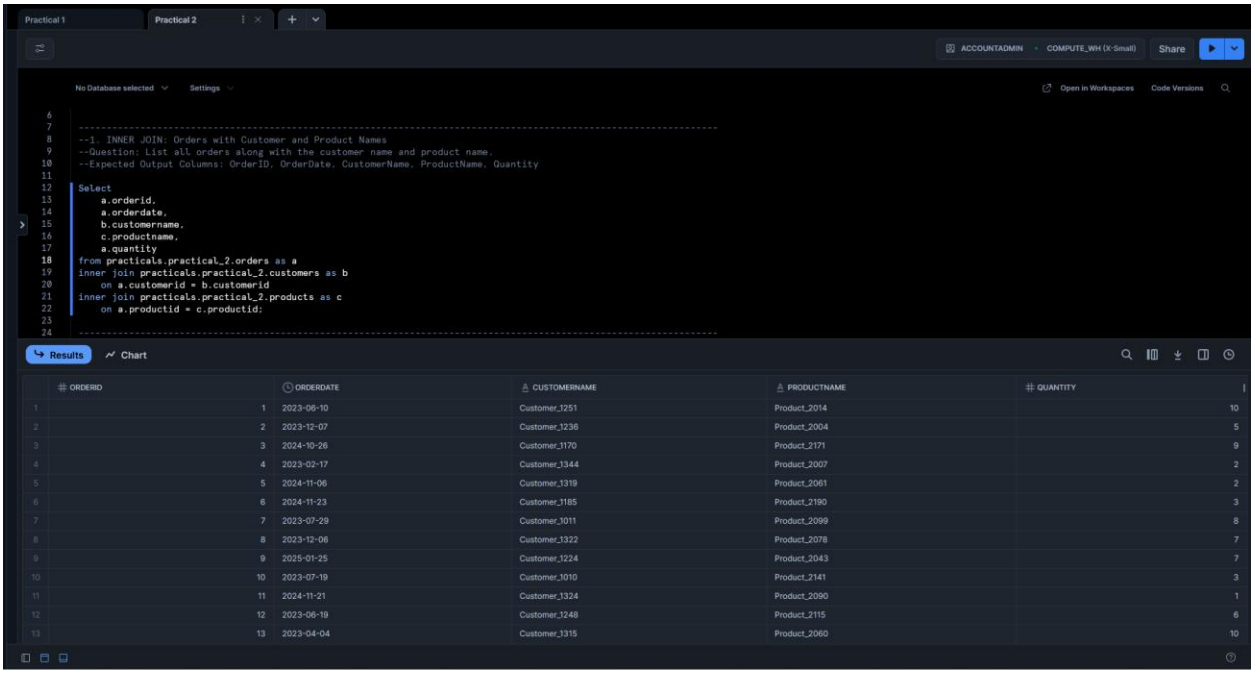
NTSHEMBO MALUEKE

Practical 2: SQL JOIN Practice

QUESTIONS

Q1

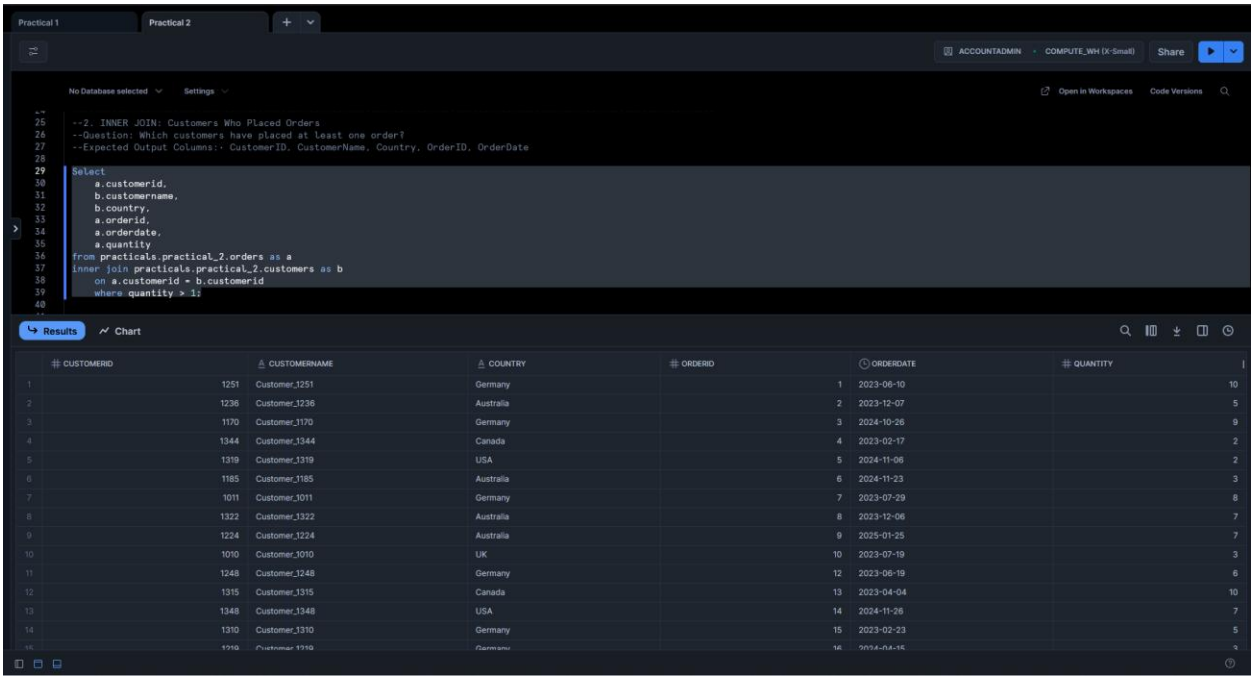


```
--1. INNER JOIN: Orders with Customer and Product Names
--Question: List all orders along with the customer name and product name.
--Expected Output Columns: OrderID, OrderDate, CustomerName, ProductName, Quantity

Select
    a.orderid,
    a.orderdate,
    b.customername,
    c.productname,
    a.quantity
from practicals.practical_2.orders as a
inner join practicals.practical_2.customers as b
    on a.customerid = b.customerid
inner join practicals.practical_2.products as c
    on a.productid = c.productid;
```

	ORDERID	ORDERDATE	CUSTOMERNAME	PRODUCTNAME	QUANTITY
1	1	2023-06-10	Customer_1251	Product_2014	10
2	2	2023-12-07	Customer_1236	Product_2004	5
3	3	2024-10-26	Customer_1170	Product_2171	9
4	4	2023-02-17	Customer_1344	Product_2007	2
5	5	2024-11-06	Customer_1319	Product_2061	2
6	6	2024-11-23	Customer_1185	Product_2190	3
7	7	2023-07-29	Customer_1011	Product_2099	8
8	8	2023-12-06	Customer_1322	Product_2078	7
9	9	2025-01-25	Customer_1224	Product_2043	7
10	10	2023-07-19	Customer_1010	Product_2141	3
11	11	2024-11-21	Customer_1324	Product_2090	1
12	12	2023-06-19	Customer_1248	Product_2115	6
13	13	2023-04-04	Customer_1315	Product_2060	10

Q2

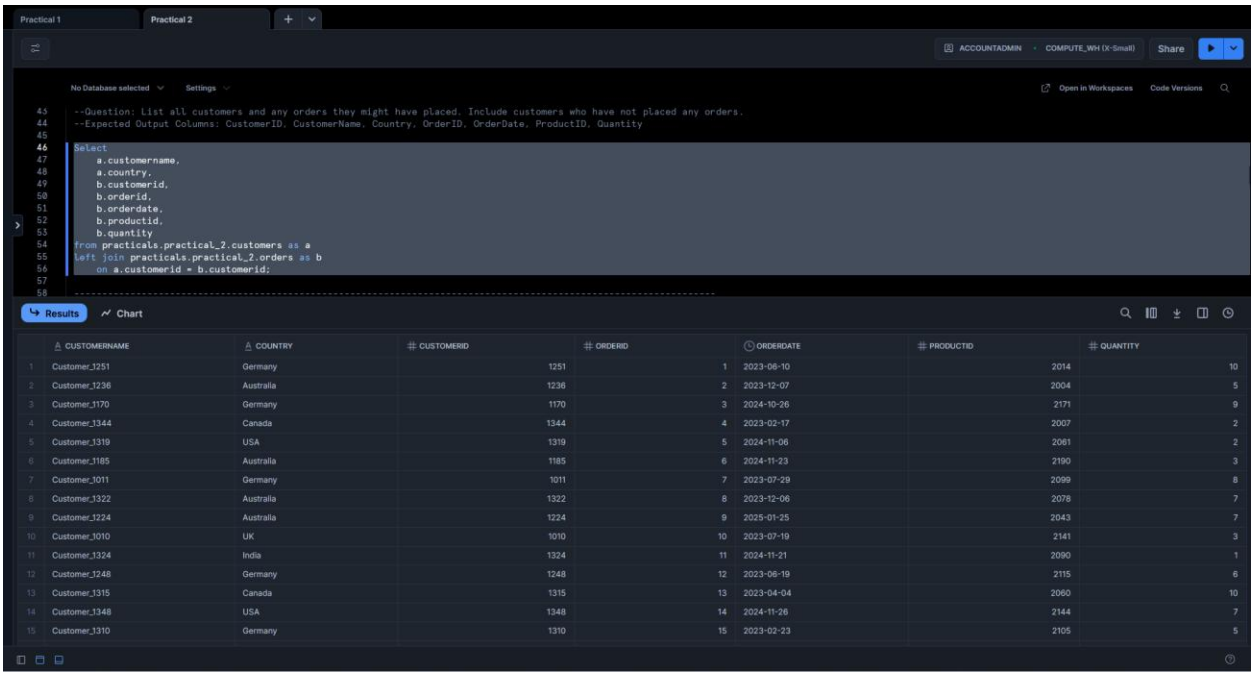


```
--2. INNER JOIN: Customers Who Placed Orders
--Question: Which customers have placed at least one order?
--Expected Output Columns:- CustomerID, CustomerName, Country, OrderID, OrderDate

Select
    a.customerid,
    b.customername,
    b.country,
    a.orderid,
    a.orderdate,
    a.quantity
from practicals.practical_2.orders as a
inner join practicals.practical_2.customers as b
    on a.customerid = b.customerid
    where quantity > 1;
```

	CUSTOMERID	CUSTOMERNAME	COUNTRY	ORDERID	ORDERDATE	QUANTITY
1	1251	Customer_1251	Germany	1	2023-06-10	10
2	1236	Customer_1236	Australia	2	2023-12-07	5
3	1170	Customer_1170	Germany	3	2024-10-26	9
4	1344	Customer_1344	Canada	4	2023-02-17	2
5	1319	Customer_1319	USA	5	2024-11-06	2
6	1185	Customer_1185	Australia	6	2024-11-23	3
7	1011	Customer_1011	Germany	7	2023-07-29	8
8	1322	Customer_1322	Australia	8	2023-12-06	7
9	1224	Customer_1224	Australia	9	2025-01-25	7
10	1010	Customer_1010	UK	10	2023-07-19	3
11	1248	Customer_1248	Germany	12	2023-06-19	6
12	1315	Customer_1315	Canada	13	2023-04-04	10
13	1348	Customer_1348	USA	14	2024-11-26	7
14	1310	Customer_1310	Germany	15	2023-02-23	5

Q3

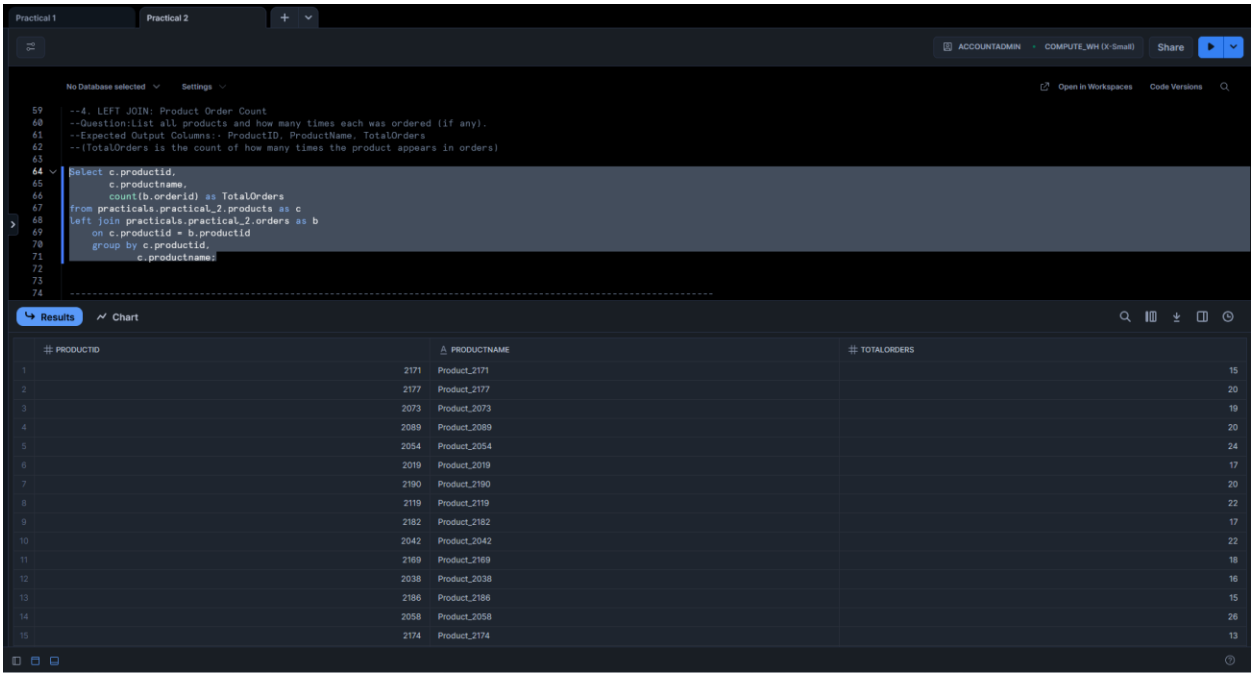


```
--Question: List all customers and any orders they might have placed. Include customers who have not placed any orders.
--Expected Output Columns: CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

Select
    a.customername,
    a.country,
    b.customerid,
    b.orderid,
    b.orderdate,
    b.productid,
    b.quantity
from practicals.practical_2.customers as a
left join practicals.practical_2.orders as b
    on a.customerid = b.customerid;
```

	CUSTOMERNAME	COUNTRY	CUSTOMERID	ORDERID	ORDERDATE	PRODUCTID	QUANTITY
1	Customer_1251	Germany	1251	1	2023-06-10	2014	10
2	Customer_1236	Australia	1236	2	2023-12-07	2004	5
3	Customer_1170	Germany	1170	3	2024-10-26	2171	9
4	Customer_1344	Canada	1344	4	2023-02-17	2007	2
5	Customer_1319	USA	1319	5	2024-11-06	2061	2
6	Customer_1185	Australia	1185	6	2024-11-23	2190	3
7	Customer_1011	Germany	1011	7	2023-07-29	2099	8
8	Customer_1322	Australia	1322	8	2023-12-06	2078	7
9	Customer_1224	Australia	1224	9	2025-01-25	2043	7
10	Customer_1010	UK	1010	10	2023-07-19	2141	3
11	Customer_1324	India	1324	11	2024-11-21	2090	1
12	Customer_1248	Germany	1248	12	2023-06-19	2115	6
13	Customer_1315	Canada	1315	13	2023-04-04	2060	10
14	Customer_1348	USA	1348	14	2024-11-26	2144	7
15	Customer_1310	Germany	1310	15	2023-02-23	2105	5

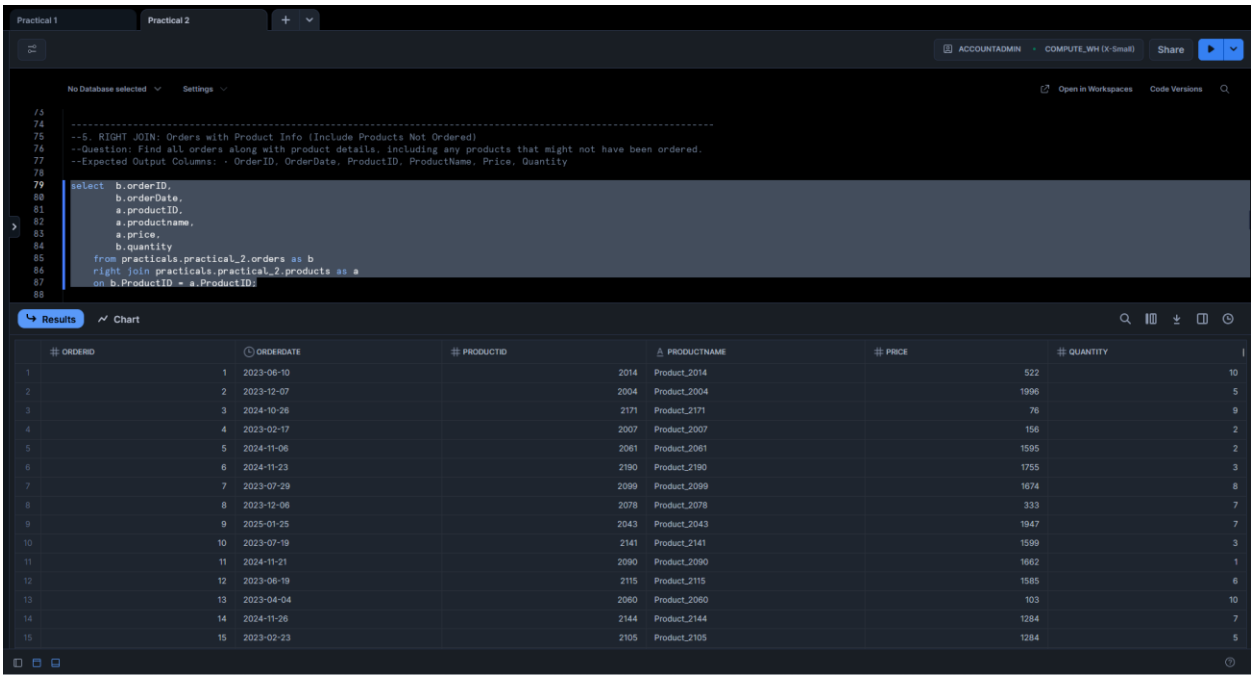
Q4



```
--4. LEFT JOIN: Product Order Count
--Question:List all products and how many times each was ordered (if any).
--Expected Output Columns:- ProductID, ProductName, TotalOrders
--(TotalOrders is the count of how many times the product appears in orders)
Select c.productid,
       c.productname,
       count(b.orderid) as TotalOrders
from practicals.practical_2.products as c
left join practicals.practical_2.orders as b
    on c.productid = b.productid
    group by c.productid,
             c.productname;
```

	PRODUCTID	PRODUCTNAME	TOTALORDERS
1	2171	Product_2171	15
2	2177	Product_2177	20
3	2073	Product_2073	19
4	2089	Product_2089	20
5	2054	Product_2054	24
6	2019	Product_2019	17
7	2190	Product_2190	20
8	2119	Product_2119	22
9	2182	Product_2182	17
10	2042	Product_2042	22
11	2169	Product_2169	18
12	2038	Product_2038	16
13	2186	Product_2186	15
14	2058	Product_2058	26
15	2174	Product_2174	13

Q5

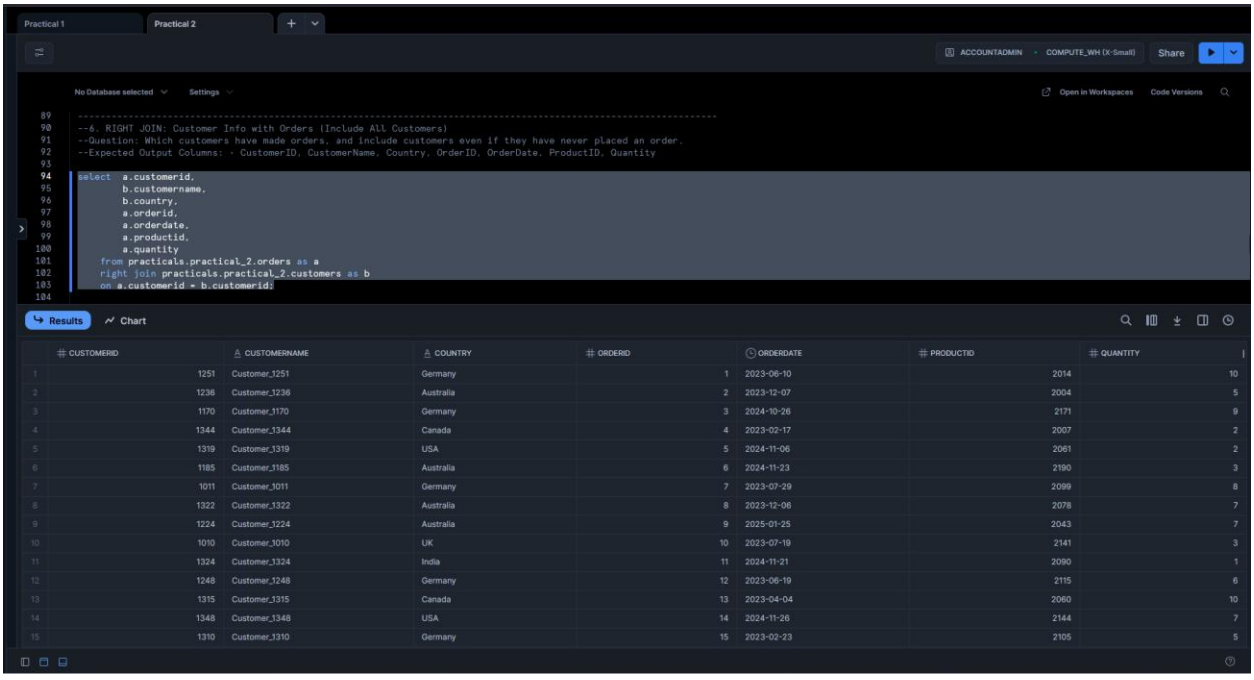


```
--5. RIGHT JOIN: Orders with Product Info (Include Products Not Ordered)
--Question: Find all orders along with product details, including any products that might not have been ordered.
--Expected Output Columns: - OrderID, OrderDate, ProductID, ProductName, Price, Quantity

select  b.orderID,
        b.orderDate,
        a.productID,
        a.productname,
        a.price,
        b.quantity
    from practicals.practical_2.orders as b
    right join practicals.practical_2.products as a
    on b.ProductID = a.ProductID;
```

	ORDERID	ORDERDATE	PRODUCTID	PRODUCTNAME	PRICE	QUANTITY
1	1	2023-06-10	2014	Product_2014	522	10
2	2	2023-12-07	2004	Product_2004	1996	5
3	3	2024-10-26	2171	Product_2171	76	9
4	4	2023-02-17	2007	Product_2007	156	2
5	5	2024-11-06	2061	Product_2061	1595	2
6	6	2024-11-23	2190	Product_2190	1755	3
7	7	2023-07-29	2099	Product_2099	1674	8
8	8	2023-12-06	2078	Product_2078	333	7
9	9	2025-01-25	2043	Product_2043	1947	7
10	10	2023-07-19	2141	Product_2141	1599	3
11	11	2024-11-21	2090	Product_2090	1662	1
12	12	2023-06-19	2115	Product_2115	1585	6
13	13	2023-04-04	2060	Product_2060	103	10
14	14	2024-11-26	2144	Product_2144	1284	7
15	15	2023-02-23	2105	Product_2105	1284	5

Q6

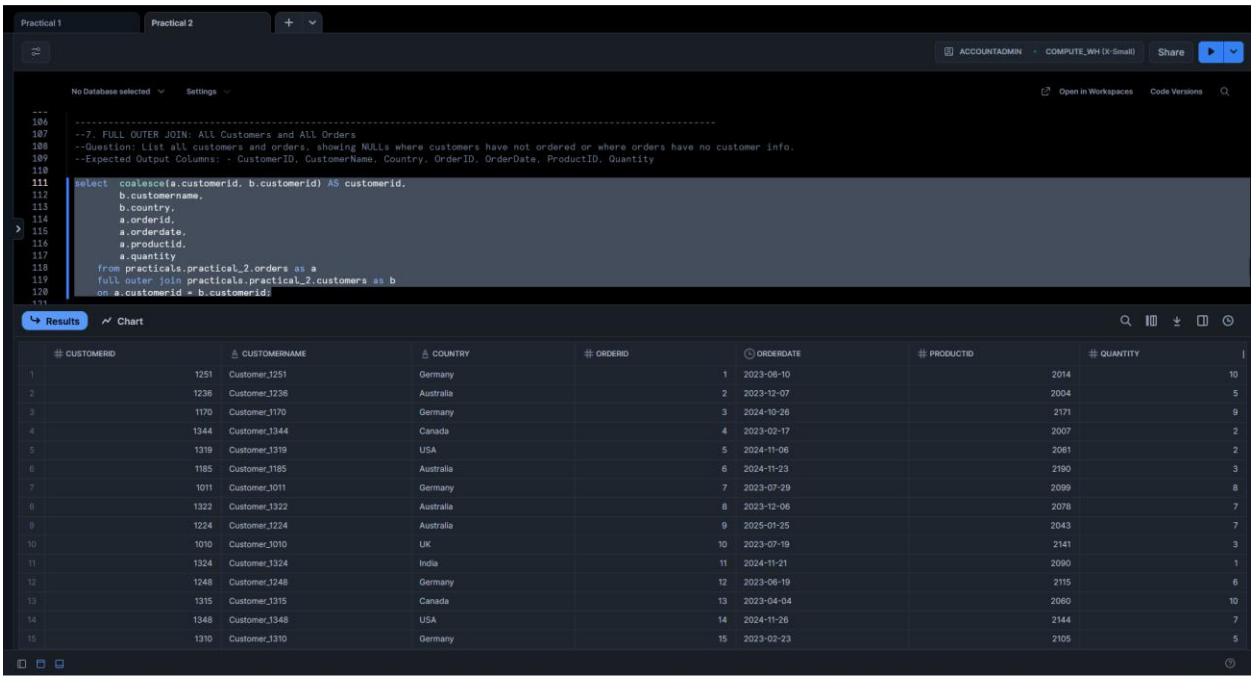


```
--6. RIGHT JOIN: Customer Info with Orders (Include All Customers)
--Question: Which customers have made orders, and include customers even if they have never placed an order.
--Expected Output Columns: - CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

select  a.customerid,
        b.customername,
        b.country,
        a.orderid,
        a.orderdate,
        a.productid,
        a.quantity
    from practicals.practical_2.orders as a
    right join practicals.practical_2.customers as b
    on a.customerid = b.customerid;
```

	CUSTOMERID	CUSTOMERNAME	COUNTRY	ORDERID	ORDERDATE	PRODUCTID	QUANTITY
1	1251	Customer_1251	Germany	1	2023-06-10	2014	10
2	1236	Customer_1236	Australia	2	2023-12-07	2004	5
3	1170	Customer_1170	Germany	3	2024-10-26	2171	9
4	1344	Customer_1344	Canada	4	2023-02-17	2007	2
5	1319	Customer_1319	USA	5	2024-11-06	2061	2
6	1185	Customer_1185	Australia	6	2024-11-23	2190	3
7	1011	Customer_1011	Germany	7	2023-07-29	2099	8
8	1322	Customer_1322	Australia	8	2023-12-06	2078	7
9	1224	Customer_1224	Australia	9	2025-01-25	2043	7
10	1010	Customer_1010	UK	10	2023-07-19	2141	3
11	1324	Customer_1324	India	11	2024-11-21	2090	1
12	1248	Customer_1248	Germany	12	2023-06-19	2115	6
13	1315	Customer_1315	Canada	13	2023-04-04	2060	10
14	1348	Customer_1348	USA	14	2024-11-26	2144	7
15	1310	Customer_1310	Germany	15	2023-02-23	2105	5

Q7

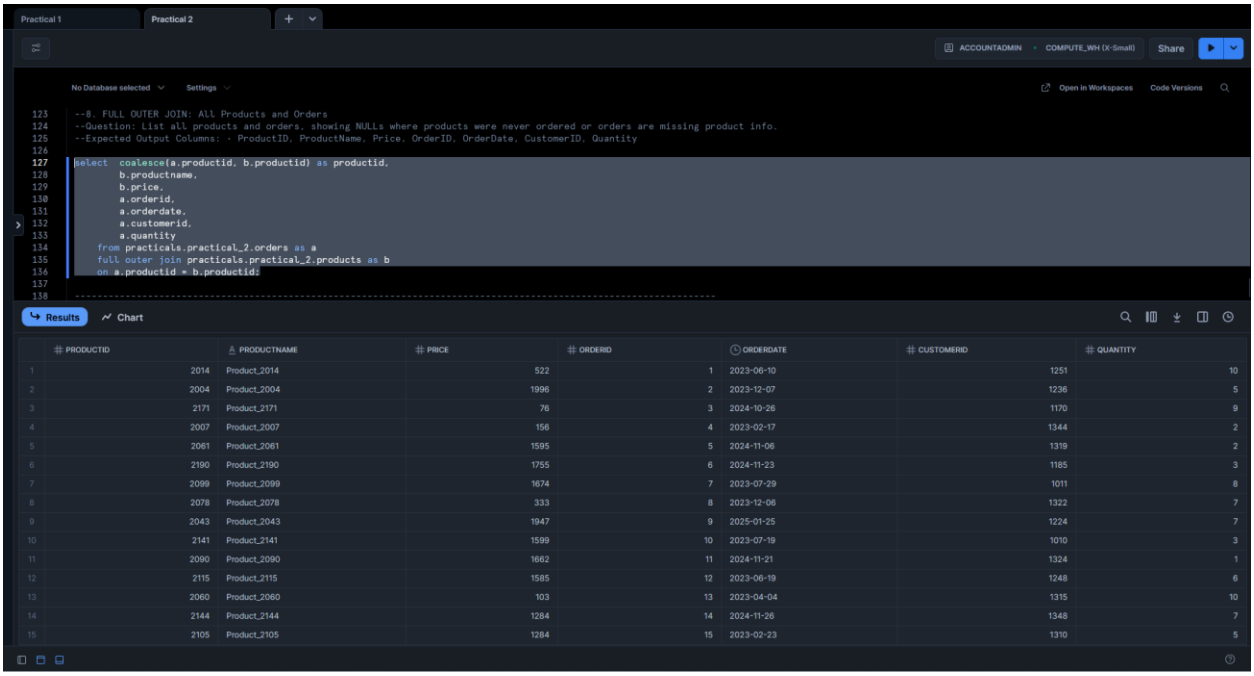


```
--7. FULL OUTER JOIN: All Customers and All Orders
--Question: List all customers and orders, showing NULLs where customers have not ordered or where orders have no customer info.
--Expected Output Columns: - CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

select  coalesce(a.customerid, b.customerid) AS customerid,
        b.customername,
        b.country,
        a.orderid,
        a.orderdate,
        a.productid,
        a.quantity
    from practicals.practical_2.orders as a
    full outer join practicals.practical_2.customers as b
    on a.customerid = b.customerid;
```

	CUSTOMERID	CUSTOMERNAME	COUNTRY	ORDERID	ORDERDATE	PRODUCTID	QUANTITY
1	1251	Customer_1251	Germany	1	2023-06-10	2014	10
2	1236	Customer_1236	Australia	2	2023-12-07	2004	5
3	1170	Customer_1170	Germany	3	2024-10-26	2171	9
4	1344	Customer_1344	Canada	4	2023-02-17	2007	2
5	1319	Customer_1319	USA	5	2024-11-06	2061	2
6	1185	Customer_1185	Australia	6	2024-11-23	2190	3
7	1011	Customer_1011	Germany	7	2023-07-29	2099	8
8	1322	Customer_1322	Australia	8	2023-12-06	2078	7
9	1224	Customer_1224	Australia	9	2025-01-25	2043	7
10	1010	Customer_1010	UK	10	2023-07-19	2141	3
11	1324	Customer_1324	India	11	2024-11-21	2090	1
12	1248	Customer_1248	Germany	12	2023-06-19	2115	6
13	1315	Customer_1315	Canada	13	2023-04-04	2060	10
14	1348	Customer_1348	USA	14	2024-11-26	2144	7
15	1310	Customer_1310	Germany	15	2023-02-23	2105	5

Q8



```
--8. FULL OUTER JOIN: All Products and Orders
--Question: List all products and orders, showing NULLs where products were never ordered or orders are missing product info.
--Expected Output Columns: - ProductID, ProductName, Price, OrderID, OrderDate, CustomerID, Quantity

select  coalesce(a.productid, b.productid) as productid,
        b.productname,
        b.price,
        a.orderid,
        a.orderdate,
        a.customerid,
        a.quantity
    from practicals.practical_2.orders as a
    full outer join practicals.practical_2.products as b
    on a.productid = b.productid;
```

	PRODUCTID	PRODUCTNAME	PRICE	ORDERID	ORDERDATE	CUSTOMERID	QUANTITY
1	2014	Product_2014	522	1	2023-06-10	1251	10
2	2004	Product_2004	1996	2	2023-12-07	1236	5
3	2171	Product_2171	76	3	2024-10-26	1170	9
4	2007	Product_2007	156	4	2023-02-17	1344	2
5	2061	Product_2061	1595	5	2024-11-06	1319	2
6	2190	Product_2190	1755	6	2024-11-23	1185	3
7	2099	Product_2099	1674	7	2023-07-29	1011	8
8	2078	Product_2078	333	8	2023-12-06	1322	7
9	2043	Product_2043	1947	9	2025-01-25	1224	7
10	2141	Product_2141	1599	10	2023-07-19	1010	3
11	2090	Product_2090	1662	11	2024-11-21	1324	1
12	2115	Product_2115	1585	12	2023-06-19	1248	6
13	2060	Product_2060	103	13	2023-04-04	1315	10
14	2144	Product_2144	1284	14	2024-11-26	1348	7
15	2105	Product_2105	1284	15	2023-02-23	1310	5

--NTSHEMBO MALUEKE

--Practical 2: SQL JOIN Practice

--1. INNER JOIN: Orders with Customer and Product Names

--Question: List all orders along with the customer name and product name.

--Expected Output Columns: OrderID, OrderDate, CustomerName, ProductName, Quantity

```
Select
   a.orderid,
   a.orderdate,
   b.customername,
   c.productname,
   a.quantity
from practicals.practical_2.orders as a
inner join practicals.practical_2.customers as b
   on a.customerid = b.customerid
inner join practicals.practical_2.products as c
   on a.productid = c.productid;
```

--2. INNER JOIN: Customers Who Placed Orders

--Question: Which customers have placed at least one order?

--Expected Output Columns:• CustomerID, CustomerName, Country, OrderID, OrderDate

```
Select
   a.customerid,
   b.customername,
   b.country,
   a.orderid,
   a.orderdate,
   a.quantity
from practicals.practical_2.orders as a
inner join practicals.practical_2.customers as b
   on a.customerid = b.customerid
   where quantity > 1;
```

--3. LEFT JOIN: All Customers and Their Orders

--Question: List all customers and any orders they might have placed. Include customers who have not placed any orders.

--Expected Output Columns: CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

```
Select
   a.customername,
   a.country,
   b.customerid,
   b.orderid,
```

```
   b.orderdate,
   b.productid,
   b.quantity
from practicals.practical_2.customers as a
left join practicals.practical_2.orders as b
   on a.customerid = b.customerid;
```

```
--4. LEFT JOIN: Product Order Count
--Question:List all products and how many times each was ordered (if any).
--Expected Output Columns:• ProductID, ProductName, TotalOrders
--(TotalOrders is the count of how many times the product appears in orders)

Select c.productid,
      c.productname,
      count(b.orderid) as TotalOrders
from practicals.practical_2.products as c
left join practicals.practical_2.orders as b
   on c.productid = b.productid
   group by c.productid,
         c.productname;
```

```
--5. RIGHT JOIN: Orders with Product Info (Include Products Not Ordered)
```

--Question: Find all orders along with product details, including any products that might not have been ordered.

--Expected Output Columns: • OrderID, OrderDate, ProductID, ProductName, Price, Quantity

```
select  b.orderID,
        b.orderDate,
        a.productID,
        a.productname,
        a.price,
        b.quantity
   from practicals.practical_2.orders as b
   right join practicals.practical_2.products as a
   on b.ProductID = a.ProductID;
```

--6. RIGHT JOIN: Customer Info with Orders (Include All Customers)

--Question: Which customers have made orders, and include customers even if they have never placed an order.

--Expected Output Columns: • CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

```
select  a.customerid,
        b.customername,
        b.country,
        a.orderid,
        a.orderdate,
```

```
    a.productid,
    a.quantity
  from practicals.practical_2.orders as a
  right join practicals.practical_2.customers as b
  on a.customerid = b.customerid;
```

--7. FULL OUTER JOIN: All Customers and All Orders

--Question: List all customers and orders, showing NULLs where customers have not ordered or where orders have no customer info.

--Expected Output Columns: • CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity

```
select  coalesce(a.customerid, b.customerid) AS customerid,
    b.customername,
    b.country,
    a.orderid,
    a.orderdate,
    a.productid,
    a.quantity
  from practicals.practical_2.orders as a
  full outer join practicals.practical_2.customers as b
  on a.customerid = b.customerid;
```

--8. FULL OUTER JOIN: All Products and Orders

--Question: List all products and orders, showing NULLs where products were never ordered or orders are missing product info.

--Expected Output Columns: • ProductID, ProductName, Price, OrderID, OrderDate, CustomerID, Quantity

```
select  coalesce(a.productid, b.productid) as productid,
      b.productname,
      b.price,
      a.orderid,
      a.orderdate,
      a.customerid,
      a.quantity
   from practicals.practical_2.orders as a
   full outer join practicals.practical_2.products as b
   on a.productid = b.productid;
```
