

NTSHEMBO MALUEKE

Practical 2: SQL JOIN Practice

QUESTIONS

Q1

The screenshot shows a SQL editor interface with two tabs: 'Practical 1' and 'Practical 2'. The 'Practical 2' tab is active. The code in the editor is:

```
6
7
8 --1. INNER JOIN: Orders with Customer and Product Names
9 --Question: List all orders along with the customer name and product name.
10 --Expected Output Columns: OrderID, OrderDate, CustomerName, ProductName, Quantity
11
12 Select
13     a.orderid,
14     a.orderdate,
15     b.customername,
16     c.productname,
17     a.quantity
18     from practicals.practical_2.orders as a
19     inner join practicals.practical_2.customers as b
20     on a.customerid = b.customerid
21     inner join practicals.practical_2.products as c
22     on a.productid = c.productid;
23
24
```

The results table has columns: ORDERID, ORDERDATE, CUSTOMERNAME, PRODUCTNAME, and QUANTITY. The data is as follows:

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

Q2

The screenshot shows a SQL editor interface with two tabs: 'Practical 1' and 'Practical 2'. The 'Practical 2' tab is active. The code in the editor is:

```
25
26 --2. INNER JOIN: Customers Who Placed Orders
27 --Question: Which customers have placed at least one order?
28 --Expected Output Columns: CustomerID, CustomerName, Country, OrderID, OrderDate
29
30 Select
31     a.customerid,
32     b.customername,
33     b.country,
34     a.orderid,
35     a.orderdate,
36     a.quantity
37     from practicals.practical_2.orders as a
38     inner join practicals.practical_2.customers as b
39     on a.customerid = b.customerid
40     where quantity > 1;
```

The results table has columns: CUSTOMERID, CUSTOMERNAME, COUNTRY, ORDERID, ORDERDATE, and QUANTITY. The data is as follows:

CUSTOMERID	CUSTOMERNAME	COUNTRY	ORDERID	ORDERDATE	QUANTITY
1251	Customer_1251	Germany	1	2023-06-10	10
1236	Customer_1236	Australia	2	2023-12-07	5
1170	Customer_1170	Germany	3	2024-10-26	9
1344	Customer_1344	Canada	4	2023-02-17	2
1319	Customer_1319	USA	5	2024-11-06	2
1185	Customer_1185	Australia	6	2024-11-23	3
1011	Customer_1011	Germany	7	2023-07-29	8
1322	Customer_1322	Australia	8	2023-12-06	7
1224	Customer_1224	Australia	9	2025-01-25	7
1010	Customer_1010	UK	10	2023-07-19	3
1248	Customer_1248	Germany	12	2023-06-19	6
1315	Customer_1315	Canada	13	2023-04-04	10
1348	Customer_1348	USA	14	2024-11-26	7
1310	Customer_1310	Germany	15	2023-02-23	5
1910	Customer_1910	Germany	16	2024-03-16	9

Q3

The screenshot shows a database query interface with two tabs: 'Practical 1' and 'Practical 2'. The code editor contains the following SQL query:

```
45 --Question: List all customers and any orders they might have placed. Include customers who have not placed any orders.
46 --Expected Output Columns: CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity
47
48 Select
49   a.customername,
50   a.country,
51   b.customerid,
52   b.orderid,
53   b.orderdate,
54   b.productid,
55   b.quantity
56 from practicals.practical_2.customers as a
57 left join practicals.practical_2.orders as b
58   on a.customerid = b.customerid;
```

The results table has columns: CUSTOMERNAME, COUNTRY, CUSTOMERID, ORDERID, ORDERDATE, PRODUCTID, and QUANTITY. The data is as follows:

CUSTOMERNAME	COUNTRY	CUSTOMERID	ORDERID	ORDERDATE	PRODUCTID	QUANTITY
Customer_3251	Germany	1251	1	2023-06-10	2014	10
Customer_3236	Australia	1236	2	2023-12-07	2004	5
Customer_1170	Germany	1170	3	2024-10-26	2171	9
Customer_1344	Canada	1344	4	2023-02-17	2007	2
Customer_1319	USA	1319	5	2024-11-06	2061	2
Customer_1185	Australia	1185	6	2024-11-23	2190	3
Customer_1011	Germany	1011	7	2023-07-29	2099	8
Customer_1322	Australia	1322	8	2023-12-06	2078	7
Customer_1224	Australia	1224	9	2025-01-25	2043	7
Customer_1010	UK	1010	10	2023-07-19	2141	3
Customer_1324	India	1324	11	2024-11-21	2090	1
Customer_1248	Germany	1248	12	2023-06-19	2115	6
Customer_1315	Canada	1315	13	2023-04-04	2060	10
Customer_1348	USA	1348	14	2024-11-26	2144	7
Customer_1310	Germany	1310	15	2023-02-23	2105	5

Q4

The screenshot shows a database query interface with two tabs: 'Practical 1' and 'Practical 2'. The code editor contains the following SQL query:

```
59 --4. LEFT JOIN: Product Order Count
60 --Question:List all products and how many times each was ordered (if any).
61 --Expected Output Columns: ProductID, ProductName, TotalOrders
62 --(TotalOrders is the count of how many times the product appears in orders)
63
64 Select c.productid,
65   c.productname,
66   count(b.orderid) as TotalOrders
67 from practicals.practical_2.products as c
68 left join practicals.practical_2.orders as b
69   on c.productid = b.productid
70   group by c.productid,
71         c.productname;
72
73
74
```

The results table has columns: PRODUCTID, PRODUCTNAME, and TOTALORDERS. The data is as follows:

PRODUCTID	PRODUCTNAME	TOTALORDERS
2171	Product_2171	15
2177	Product_2177	20
2073	Product_2073	19
2089	Product_2089	20
2054	Product_2054	24
2019	Product_2019	17
2190	Product_2190	20
2119	Product_2119	22
2182	Product_2182	17
2042	Product_2042	22
2169	Product_2169	18
2038	Product_2038	16
2186	Product_2186	15
2058	Product_2058	26
2174	Product_2174	13

Q5

Practical 1 Practical 2 +

No Database selected Settings

Open in Workspaces Code Versions

```
75
74
75 --5. RIGHT JOIN: Orders with Product Info (Include Products Not Ordered)
76 --Question: Find all orders along with product details, including any products that might not have been ordered.
77 --Expected Output Columns: - OrderID, OrderDate, ProductID, ProductName, Price, Quantity
78
79 select b.orderID,
80       b.orderDate,
81       a.productID,
82       a.productName,
83       a.price,
84       b.quantity
85   from practicals.practical_2.orders as b
86   right join practicals.practical_2.products as a
87   on b.ProductID = a.ProductID;
```

Results

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

Q6

Practical 1 Practical 2 +

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No Database selected Settings

Open in Workspaces Code Versions

```
89
90 --A RIGHT JOIN: Customer Info with Orders (Include All Customers)
91 --Question: Which customers have made orders, and include customers even if they have never placed an order.
92 --Expected Output Columns: - CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity
93
94 select a.customerid,
95       b.customername,
96       b.country,
97       a.orderid,
98       a.orderdate,
99       a.productid,
100      a.quantity
101     from practicals.practical_2.orders as a
102      right join practicals.practical_2.customers as b
103        on a.customerid = b.customerid;
104
```

Results ▾ Chart

#	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		2024-01-26			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		2023-01-29			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			2080	10
14	1348	Customer_1348	USA	14		2024-11-26			2144	7
15	1310	Customer_1310	Germany	15		2023-02-23			2105	5

Q7

Practical 1 Practical 2 +

No Database selected Settings

```
--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
```

Results Chart

	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

Practical 1 Practical 2 +

No Database selected Settings

```
--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
```

Results Chart

	PRODUCTID	PRODUCTNAME	PRICE	ORDERID	ORDERDATE	CUSTOMERID	QUANTITY
1	2014	Product_2014	522	1	2023-06-10	1251	10
2	2004	Product_2004	1998	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;
```
