

Sindiswa Jachin Shongwe

Practical 2: BrightLight Data Analytics Coding Practical JOINS

-- Q1 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.

The screenshot shows a data analytics tool interface. At the top, there's a header with account information (ACCOUNTADMIN, COMPUTE_WH (Medium)), sharing options, and navigation icons. Below the header, the database schema is listed as PRACTICAL2.PACKSHOP. The code editor contains the following SQL query:

```
1
2 -----
3 -- Q1 INNER JOIN: Orders with Customer and Product Names Question:
4 --List all orders along with the customer name and product name.
5 -- Expected Output Columns:
6 -- • OrderID, OrderDate, CustomerName, ProductName, Quantity
7
8 SELECT A.orderid,
9       A.orderdate,
10      B.customername,
11      C.productname,
12      A.quantity
13
14
15
16 FROM PRACTICAL2.PACKSHOP.ORDERS AS A
17 INNER JOIN PRACTICAL2.PACKSHOP.CUSTOMERS AS B
18 ON A.customerid=B.customerid
19     JOIN PRACTICAL2.PACKSHOP.PRODUCTS AS C
20   ON A.productid=C.productid
```

Below the code editor, there are two tabs: "Results" and "Chart". The "Results" tab is selected, displaying a table with the following data:

#	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

-- Q2 Which customers have placed at least one order?

-- Expected Output Columns:

-- • CustomerID, CustomerName, Country, OrderID, OrderDate.

The screenshot shows a database query editor interface. At the top, it displays the schema 'PRACTICAL2.PACKSHOP' and various navigation buttons like 'Open in Workspaces', 'Code Versions', and a search icon. The main area contains a SQL query with line numbers from 23 to 39. The query selects customer details and product names for orders where quantity is greater than 1. Below the query, there are two tabs: 'Results' (which is selected) and 'Chart'. The 'Results' tab displays a table with four rows of data. The columns are labeled: ORDERID, ORDERDATE, CUSTOMERNAME, PRODUCTNAME, and QUANTITY. The data is as follows:

	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

--Q3. 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.

The screenshot shows a database interface with a code editor and a results table.

Code Editor (SQL):

```
35 INNER JOIN PRACTICAL2.PACKSHOP.CUSTOMERS AS B
36 ON A.customerid=B.customerid
37 INNER JOIN PRACTICAL2.PACKSHOP.PRODUCTS AS C
38 ON A.productid=C.productid
39 WHERE quantity >1;
40
41
42 -----
43 -- 3. LEFT JOIN: All Customers and Their Orders
44 -- Question: List all customers and any orders they might have placed. Include customers who have not
45 -- placed any orders.
46 -- Expected Output Columns:
47 -- • CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity
48 SELECT A.customerid,
49     A.customername,
50     A.country,
51
```

Results Table:

	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

-- Q4. 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).

The screenshot shows a database query editor interface. At the top, it displays the workspace name "PRACTICAL2.PACKSHOP" and various navigation buttons like "Share" and "Code Versions". The main area contains a code editor with numbered lines 61 through 78. Lines 61-70 are comments explaining the query. Lines 71-75 show the SQL code for a LEFT JOIN between the PRODUCTS and ORDERS tables, grouping by product ID and name to calculate total orders. Line 78 is a comment for the next query. Below the code editor is a results table with three columns: PRODUCTID, PRODUCTNAME, and TOTALORDERS. The table has four rows with data: ProductID 2099, ProductName Product_2099, and TotalOrders 26; ProductID 2103, ProductName Product_2103, and TotalOrders 20; ProductID 2027, ProductName Product_2027, and TotalOrders 20; and ProductID 2028, ProductName Product_2028, and TotalOrders 15.

	PRODUCTID	PRODUCTNAME	TOTALORDERS
1	2099	Product_2099	26
2	2103	Product_2103	20
3	2027	Product_2027	20
4	2028	Product_2028	15

-- Q5. 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.

The screenshot shows a database interface with a dark theme. At the top, there's a header bar with tabs for 'Practical2' and other workspace options. Below the header, the database schema 'PRACTICAL2.PACKSHOP' is selected. The main area contains a code editor with numbered lines 78 through 94. The code is a SQL query for a right join:

```
78 -- Q5. RIGHT JOIN: Orders with Product Info (Include Products Not Ordered)
79 -- Question: Find all orders along with product details, including any products that might not have
80 -- been ordered.
81 -- Expected Output Columns:• OrderID, OrderDate, ProductID, ProductName, Price, Quantity
82 SELECT A.productid,
83       A.productname,
84       A.price,
85
86       B.orderid,
87       B.orderdate,
88       B.quantity
89
90
91 FROM PRACTICAL2.PACKSHOP.PRODUCTS AS A
92 RIGHT JOIN PRACTICAL2.PACKSHOP.ORDERS AS B
93 ON A.productid=B.productid;
```

Below the code editor is a results table. The 'Results' tab is active, showing a grid with columns: # PRODUCTID, ▲ PRODUCTNAME, # PRICE, # ORDERID, ⏰ ORDERDATE, and # QUANTITY. The data in the table is as follows:

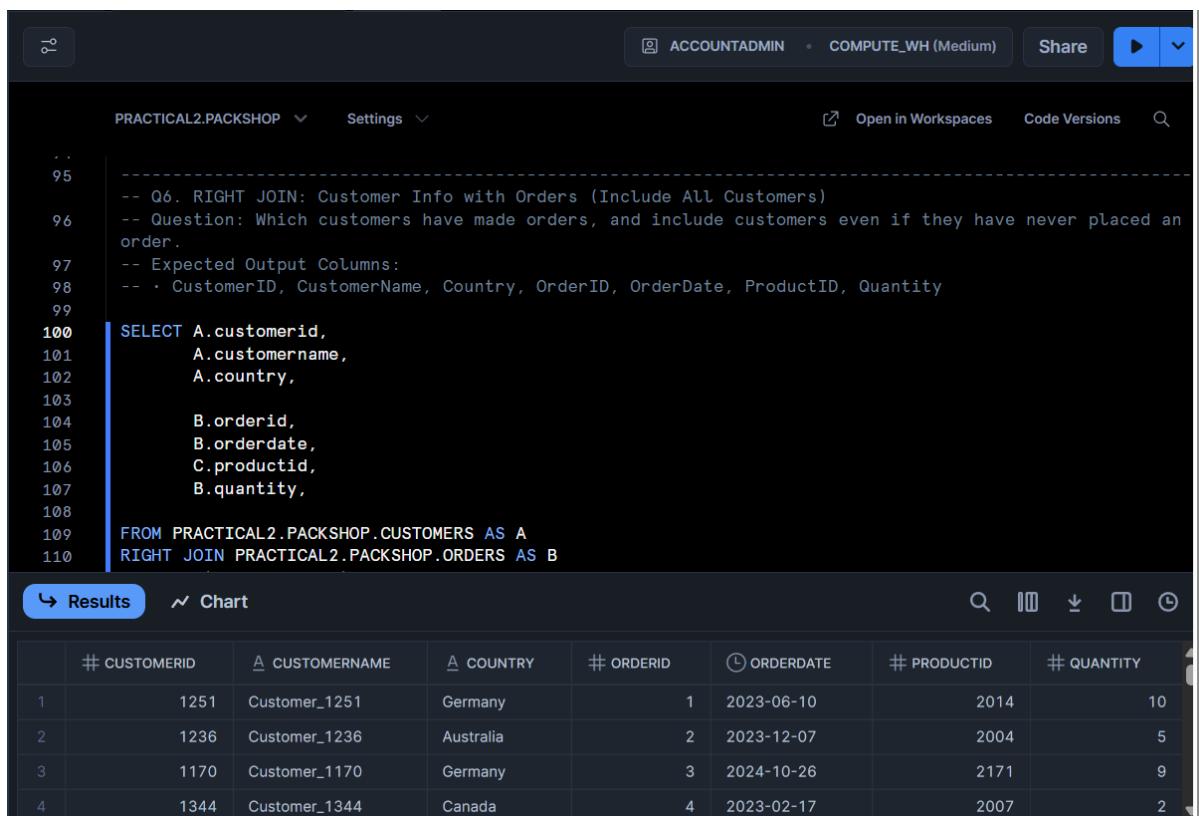
	# PRODUCTID	▲ PRODUCTNAME	# PRICE	# ORDERID	⌚ ORDERDATE	# QUANTITY
1	2014	Product_2014	522	1	2023-06-10	10
2	2004	Product_2004	1996	2	2023-12-07	5
3	2171	Product_2171	76	3	2024-10-26	9
4	2007	Product_2007	156	4	2023-02-17	2

Q6. 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



The screenshot shows a database query editor interface. At the top, it displays the workspace name "PRACTICAL2.PACKSHOP", user "ACCOUNTADMIN", and storage tier "COMPUTE_WH (Medium)". There are buttons for "Share", "Open in Workspaces", "Code Versions", and a search icon. The code area contains a numbered query:

```
95  ----
96  -- Q6. RIGHT JOIN: Customer Info with Orders (Include All Customers)
97  -- Question: Which customers have made orders, and include customers even if they have never placed an order.
98  -- Expected Output Columns:
99  -- • CustomerID, CustomerName, Country, OrderID, OrderDate, ProductID, Quantity
100 SELECT A.customerid,
101      A.customername,
102      A.country,
103
104      B.orderid,
105      B.orderdate,
106      C.productid,
107      B.quantity,
108
109 FROM PRACTICAL2.PACKSHOP.CUSTOMERS AS A
110      RIGHT JOIN PRACTICAL2.PACKSHOP.ORDERS AS B
```

The results tab is selected, showing a table with the following data:

	# 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

-- 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.

The screenshot shows a SQL editor interface with a dark theme. At the top, it displays the database name "PRACTICAL2.PACKSHOP", the schema "Settings", and the user "ACCOUNTADMIN". It also shows the compute level "COMPUTE_WH (Medium)" and various navigation buttons like "Share", "Open in Workspaces", "Code Versions", and a search icon.

The code area contains the following SQL query:

```
-- 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 A.customerid,
       A.customername,
       A.country,
       B.orderid,
       B.orderdate,
       B.productid
FROM PRACTICAL2.PACKSHOP.CUSTOMERS AS A
FULL OUTER JOIN PRACTICAL2.PACKSHOP.ORDERS AS B
ON A.customerid=B.customerid;
```

The results tab is selected at the bottom, showing a table with the following data:

	CUSTOMERID	CUSTOMERNAME	COUNTRY	ORDERID	ORDERDATE	PRODUCTID
1	1251	Customer_1251	Germany	1	2023-06-10	2014
2	1236	Customer_1236	Australia	2	2023-12-07	2004
3	1170	Customer_1170	Germany	3	2024-10-26	2171
4	1344	Customer_1344	Canada	4	2023-02-17	2007

-- Q8. 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

The screenshot shows a database query editor interface. The top bar includes account information (ACCOUNTADMIN), a share button, and navigation icons. The workspace name is PRACTICAL2.PACKSHOP. The code area contains a multi-line SQL query with line numbers from 132 to 148. The query performs a full outer join between the PRODUCTS and ORDERS tables, listing all columns for each row, with NULL values where a product or order does not exist. The results tab is selected, displaying a table with 4 rows of data. The table has columns: PRODUCTID, PRODUCTNAME, PRICE, ORDERID, ORDERDATE, CUSTOMERID, and QUANTITY.

```
132 -- Q8. FULL OUTER JOIN: All Products and Orders
133 -- Question: List all products and orders, showing NULLs where products were never ordered or orders
134 are missing product info.
135 -- Expected Output Columns:
136 -- • ProductID, ProductName, Price, OrderID, OrderDate, CustomerID, Quantity
137
138
139
140
141
142
143
144
145
146
147
148
```

	# 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