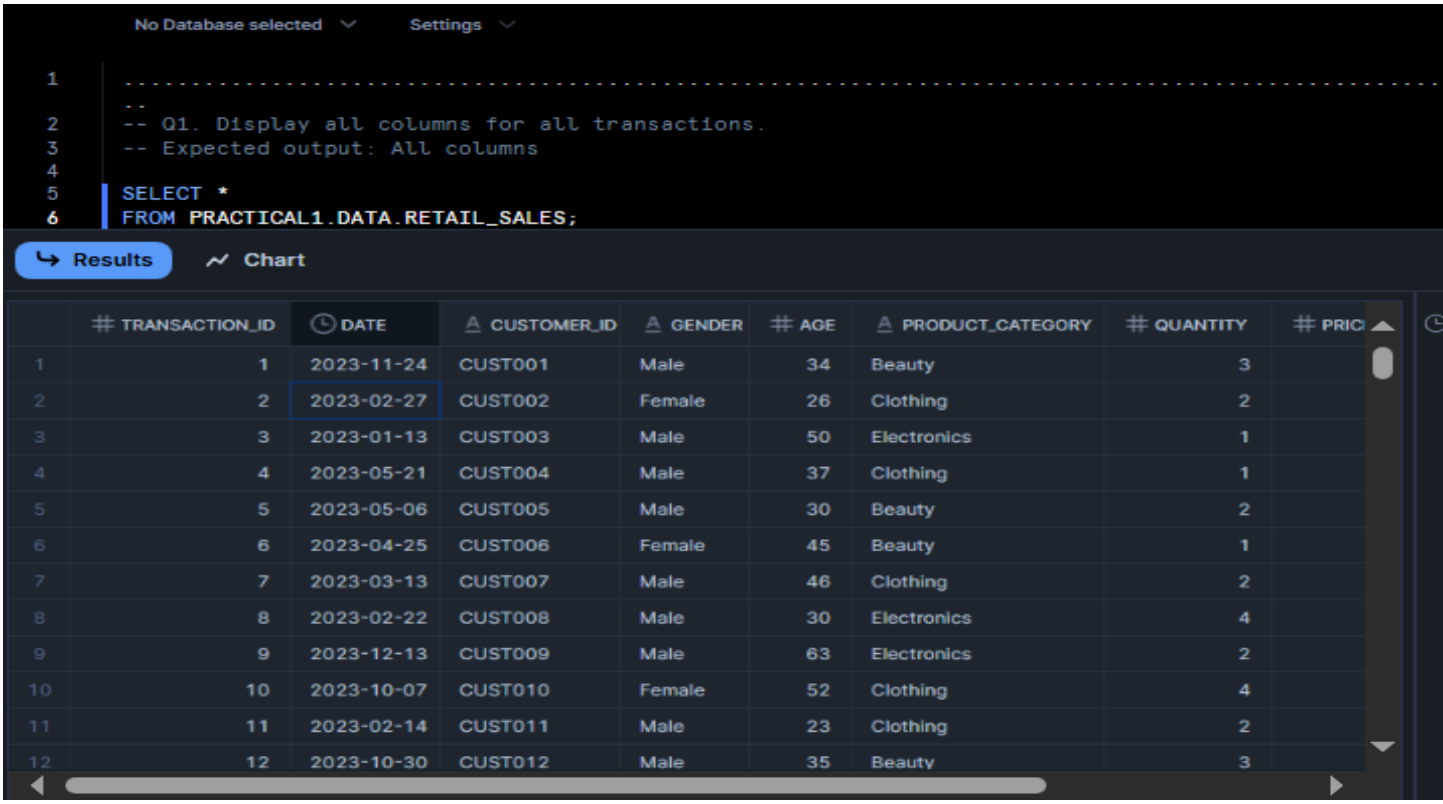
TUMMY MABUZA

PRACTICAL 1: Basic SQL Syntax

1.



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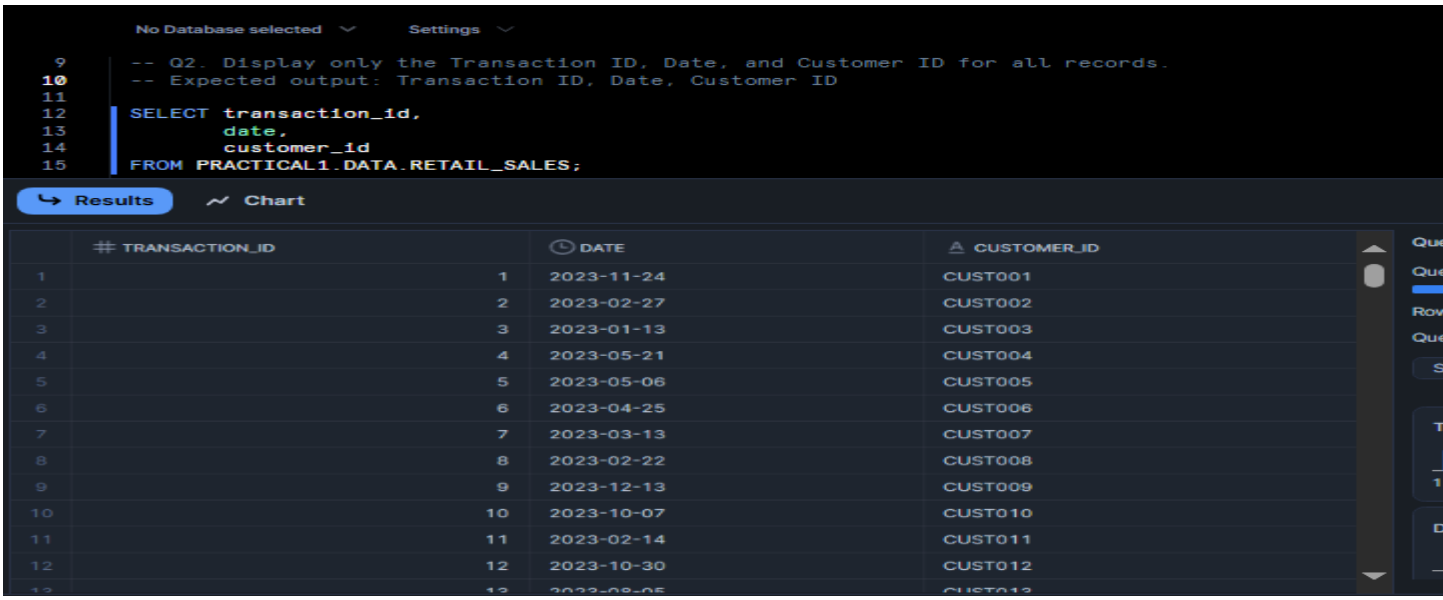
```
1
2   --
3   -- Q1. Display all columns for all transactions.
4   -- Expected output: All columns
5
6   SELECT *
7   FROM PRACTICAL1.DATA.RETAIL_SALES;
```

Results Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRIC
1	1	2023-11-24	CUST001	Male	34	Beauty	3	
2	2	2023-02-27	CUST002	Female	26	Clothing	2	
3	3	2023-01-13	CUST003	Male	50	Electronics	1	
4	4	2023-05-21	CUST004	Male	37	Clothing	1	
5	5	2023-05-06	CUST005	Male	30	Beauty	2	
6	6	2023-04-25	CUST006	Female	45	Beauty	1	
7	7	2023-03-13	CUST007	Male	46	Clothing	2	
8	8	2023-02-22	CUST008	Male	30	Electronics	4	
9	9	2023-12-13	CUST009	Male	63	Electronics	2	
10	10	2023-10-07	CUST010	Female	52	Clothing	4	
11	11	2023-02-14	CUST011	Male	23	Clothing	2	
12	12	2023-10-30	CUST012	Male	35	Beauty	3	

2.



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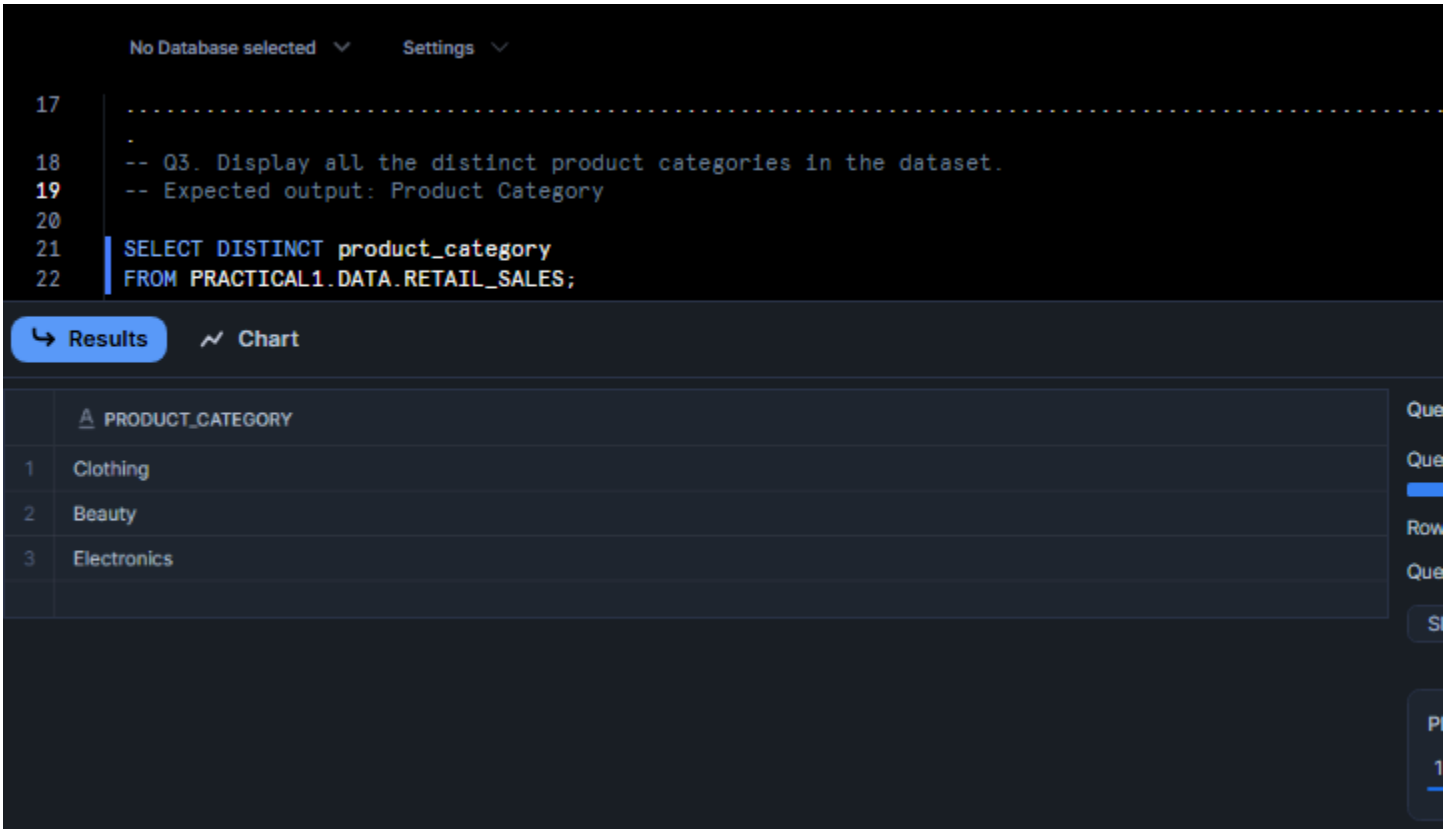
```
9   -- Q2. Display only the Transaction ID, Date, and Customer ID for all records.
10  -- Expected output: Transaction ID, Date, Customer ID
11
12  SELECT transaction_id,
13         date,
14         customer_id
15  FROM PRACTICAL1.DATA.RETAIL_SALES;
```

Results Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID
1	1	2023-11-24	CUST001
2	2	2023-02-27	CUST002
3	3	2023-01-13	CUST003
4	4	2023-05-21	CUST004
5	5	2023-05-06	CUST005
6	6	2023-04-25	CUST006
7	7	2023-03-13	CUST007
8	8	2023-02-22	CUST008
9	9	2023-12-13	CUST009
10	10	2023-10-07	CUST010
11	11	2023-02-14	CUST011
12	12	2023-10-30	CUST012

3.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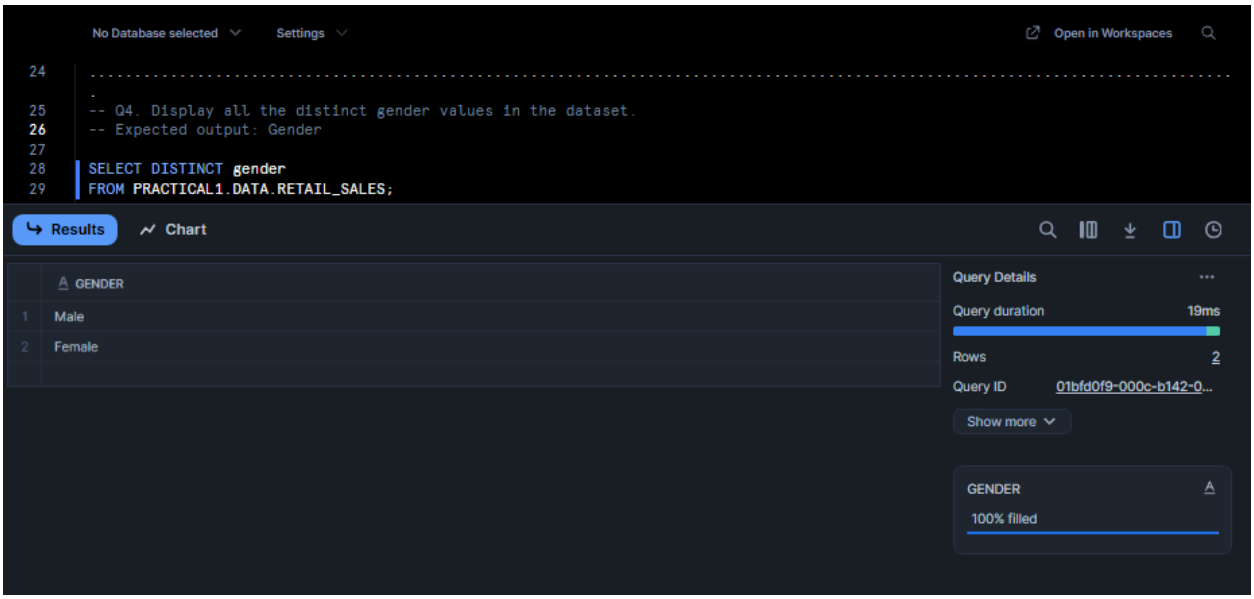
17
18 -- Q3. Display all the distinct product categories in the dataset.
19 -- Expected output: Product Category
20
21 SELECT DISTINCT product_category
22 FROM PRACTICAL1.DATA.RETAIL_SALES;
Results
Chart
PRODUCT_CATEGORY
1 Clothing
2 Beauty
3 Electronics

4.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Settings
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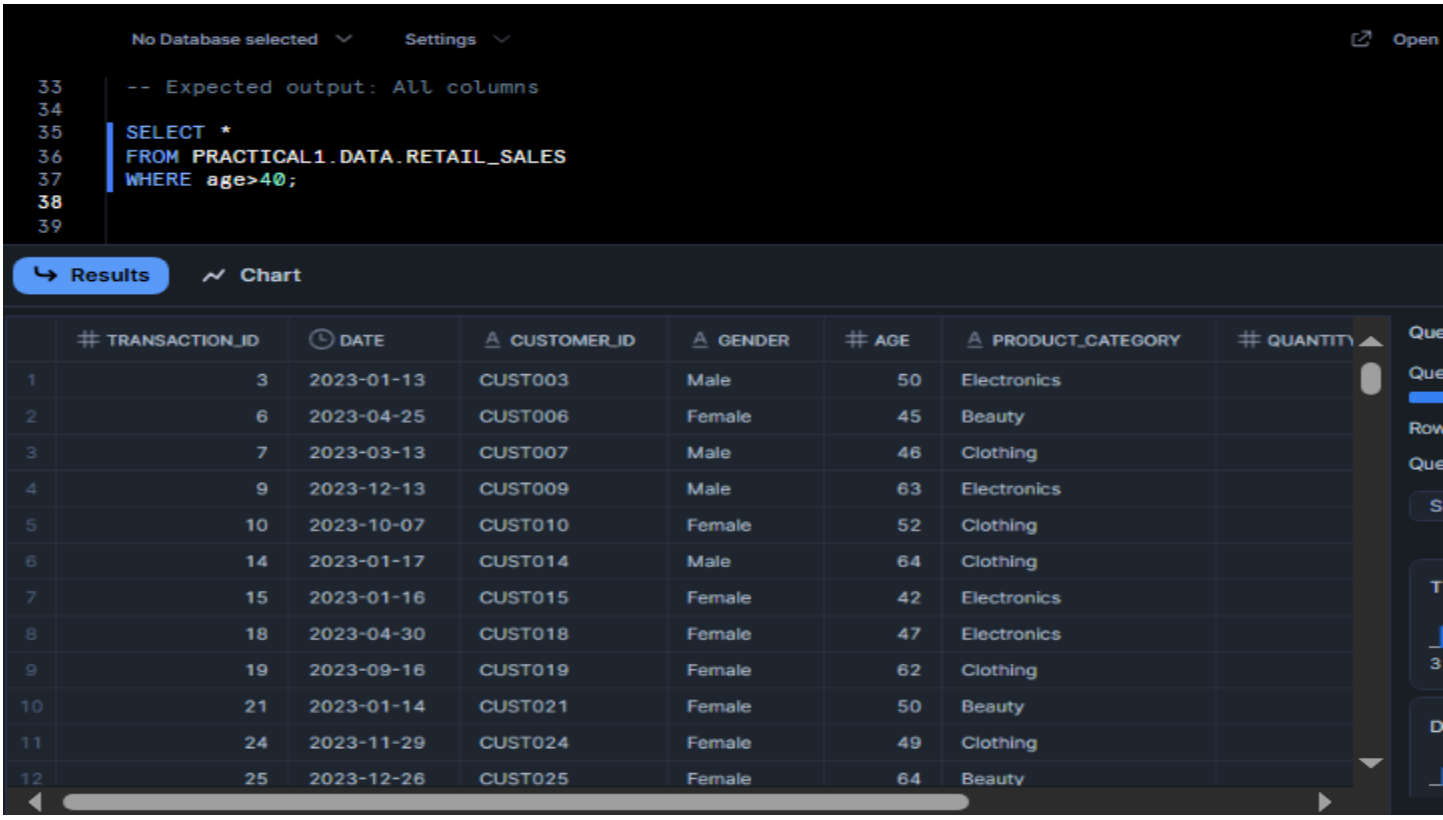
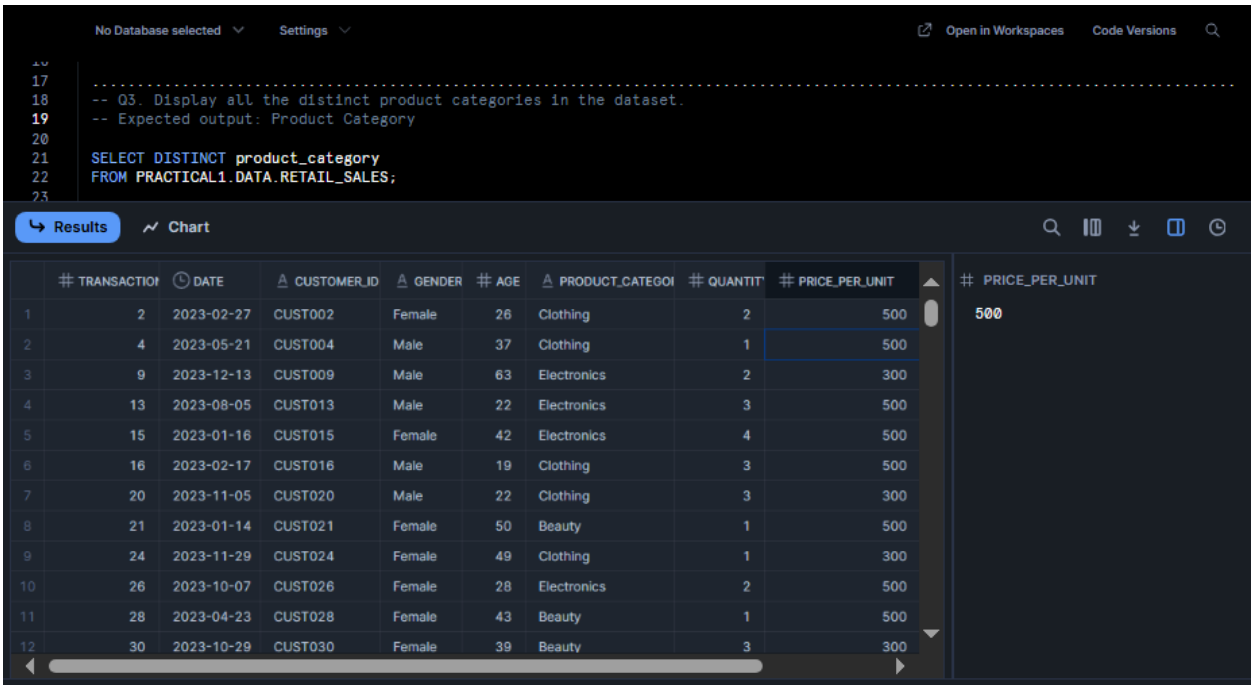
24
25 -- Q4. Display all the distinct gender values in the dataset.
26 -- Expected output: Gender
27
28 SELECT DISTINCT gender
29 FROM PRACTICAL1.DATA.RETAIL_SALES;
Results
Chart
GENDER
1 Male
2 Female
Query Details
Query duration 19ms
Rows 2
Query ID 01bfd0f9-000c-b142-0...
Show more
GENDER
100% filled

5.



	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY
1	3	2023-01-13	CUST003	Male	50	Electronics	
2	6	2023-04-25	CUST006	Female	45	Beauty	
3	7	2023-03-13	CUST007	Male	46	Clothing	
4	9	2023-12-13	CUST009	Male	63	Electronics	
5	10	2023-10-07	CUST010	Female	52	Clothing	
6	14	2023-01-17	CUST014	Male	64	Clothing	
7	15	2023-01-16	CUST015	Female	42	Electronics	
8	18	2023-04-30	CUST018	Female	47	Electronics	
9	19	2023-09-16	CUST019	Female	62	Clothing	
10	21	2023-01-14	CUST021	Female	50	Beauty	
11	24	2023-11-29	CUST024	Female	49	Clothing	
12	25	2023-12-26	CUST025	Female	64	Beauty	

6.



	TRANSACTIO	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGO	QUANTIT	PRICE_PER_UNIT
1	2	2023-02-27	CUST002	Female	26	Clothing	2	500
2	4	2023-05-21	CUST004	Male	37	Clothing	1	500
3	9	2023-12-13	CUST009	Male	63	Electronics	2	300
4	13	2023-08-05	CUST013	Male	22	Electronics	3	500
5	15	2023-01-16	CUST015	Female	42	Electronics	4	500
6	16	2023-02-17	CUST016	Male	19	Clothing	3	500
7	20	2023-11-05	CUST020	Male	22	Clothing	3	300
8	21	2023-01-14	CUST021	Female	50	Beauty	1	500
9	24	2023-11-29	CUST024	Female	49	Clothing	1	300
10	26	2023-10-07	CUST026	Female	28	Electronics	2	500
11	28	2023-04-23	CUST028	Female	43	Beauty	1	500
12	30	2023-10-29	CUST030	Female	39	Beauty	3	300

7.

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```
49  -- 'Electronics'.
50  -- Expected output: All columns
51
52  SELECT *
53  FROM PRACTICAL1.DATA.RETAIL_SALES
54  WHERE product_category IN ('Beauty','Electronics');
55
```

Results Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY
1	1	2023-11-24	CUST001	Male	34	Beauty	
2	3	2023-01-13	CUST003	Male	50	Electronics	
3	5	2023-05-06	CUST005	Male	30	Beauty	
4	6	2023-04-25	CUST006	Female	45	Beauty	
5	8	2023-02-22	CUST008	Male	30	Electronics	
6	9	2023-12-13	CUST009	Male	63	Electronics	
7	12	2023-10-30	CUST012	Male	35	Beauty	
8	13	2023-08-05	CUST013	Male	22	Electronics	
9	15	2023-01-16	CUST015	Female	42	Electronics	
10	18	2023-04-30	CUST018	Female	47	Electronics	
11	21	2023-01-14	CUST021	Female	50	Beauty	
12	25	2023-12-26	CUST025	Female	64	Beauty	

8.

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```
35  SELECT *
36  FROM PRACTICAL1.DATA.RETAIL_SALES
37  WHERE age>40;
38
39  ----------------------------------------------------------------------------------------------------
40  -- Q6. Display all transactions where the Price per Unit is between 100 and 500.
41  -- Expected output: All columns
```

Results Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITI
1	1	2023-11-24	CUST001	Male	34	Beauty	
2	2	2023-02-27	CUST002	Female	26	Clothing	
3	3	2023-01-13	CUST003	Male	50	Electronics	
4	4	2023-05-21	CUST004	Male	37	Clothing	
5	5	2023-05-06	CUST005	Male	30	Beauty	
6	6	2023-04-25	CUST006	Female	45	Beauty	
7	7	2023-03-13	CUST007	Male	46	Clothing	
8	8	2023-02-22	CUST008	Male	30	Electronics	
9	9	2023-12-13	CUST009	Male	63	Electronics	
10	10	2023-10-07	CUST010	Female	52	Clothing	
11	11	2023-02-14	CUST011	Male	23	Clothing	
12	12	2023-10-30	CUST012	Male	35	Beauty	

9.

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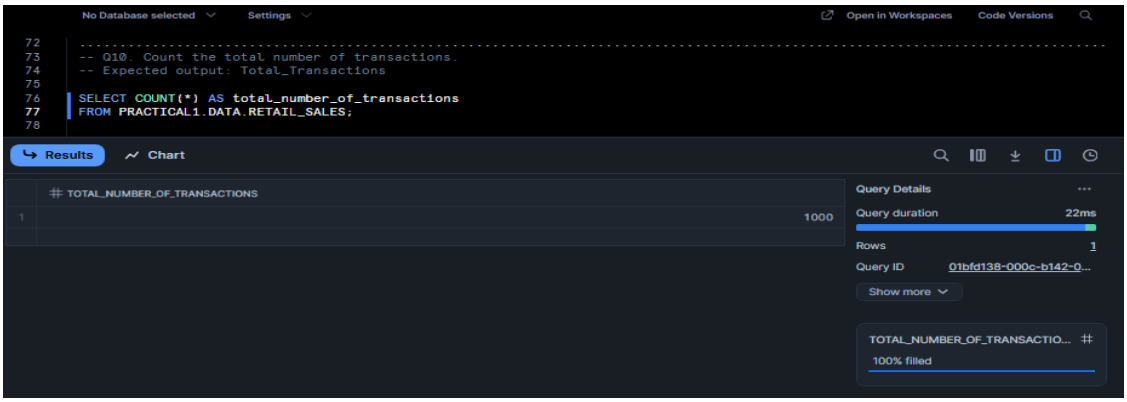
```
66  -- Expected output: All columns
67
68  SELECT *
69  FROM PRACTICAL1.DATA.RETAIL_SALES
70  WHERE quantity >= 3;
71
72
```

Results Chart

	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT
1	3-11-24	CUST001	Male	34	Beauty	3	50
2	3-02-22	CUST008	Male	30	Electronics	4	25
3	3-10-07	CUST010	Female	52	Clothing	4	50
4	3-10-30	CUST012	Male	35	Beauty	3	25
5	3-08-05	CUST013	Male	22	Electronics	3	500
6	3-01-17	CUST014	Male	64	Clothing	4	30
7	3-01-16	CUST015	Female	42	Electronics	4	500
8	3-02-17	CUST016	Male	19	Clothing	3	500
9	3-04-22	CUST017	Female	27	Clothing	4	25
10	3-11-05	CUST020	Male	22	Clothing	3	300
11	3-04-12	CUST023	Female	35	Clothing	4	30
12	3-10-29	CUST030	Female	39	Beauty	3	300

10.



11.

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```
79
80  -- Q11. Find the average Age of customers.
81  -- Expected output: Average_Age
82
83  SELECT AVG(Age) average_age
84  FROM PRACTICAL1.DATA.RETAIL_SALES;
85
```

Results Chart

	AVERAGE_AGE
1	41.392000

12.

```
87  -- Q12. Find the total quantity of products sold.
88  -- Expected output: Total_Quantity
89
90  SELECT SUM(quantity) AS total_quantity
91  FROM PRACTICAL1.DATA.RETAIL_SALES;
92
93
```

Results | Chart

	TOTAL_QUANTITY
1	2514

Query De
Query du
Rows

13.

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```
93  ..........
94  -- Q13. Find the maximum Total Amount spent in a single transaction.
95  -- Expected output: Max_Total_Amount
96
97  SELECT MAX(total_amount) AS max_total_amount
98  FROM PRACTICAL1.DATA.RETAIL_SALES;
99
```

Results | Chart

	MAX_TOTAL_AMOUNT
1	2000

Query Details
Query duration
Rows

14.

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```
100 ..........
101 -- Q14. Find the minimum Price per Unit in the dataset.
102 -- Expected output: Min_Price_per_Unit
103
104 SELECT MIN(price_per_unit) AS min_price_per_unit
105 FROM PRACTICAL1.DATA.RETAIL_SALES;
106
```

Results | Chart

	MIN_PRICE_PER_UNIT
1	25

Que
Que
Row

15.

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```
108 -- Q15. Find the number of transactions per Product Category.
109 -- Expected output: Product Category, Transaction_Count
110
111 SELECT product_category,
112        COUNT(*) AS transaction_count
113        FROM PRACTICAL1.DATA.RETAIL_SALES
114        GROUP BY product_category;
```

Results | Chart

	PRODUCT_CATEGORY	TRANSACTION_COUNT
1	Clothing	351
2	Beauty	307
3	Electronics	342

Query Details
Query duration
Rows
Query ID 01bfd17b-000c-b14

16.

```
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94  -- Q13. Find the maximum Total Amount spent in a single transaction.
95  -- Expected output: Max_Total_Amount
96
97  SELECT MAX(total_amount) AS max_total_amount
98  FROM PRACTICAL1.DATA.RETAIL_SALES;
99
100
```

Results | Chart

	GENDER	TOTAL_REVENUE
1	Male	223160
2	Female	232840

17.

```
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127 -- Expected output: Product Category, Average_Price
128
129 SELECT product_category,
130        AVG(price_per_unit) AS average_price
131 FROM PRACTICAL1.DATA.RETAIL_SALES
132 GROUP BY product_category;
133
```

Results | Chart

	PRODUCT_CATEGORY	AVERAGE_PRICE
1	Beauty	184.055375
2	Clothing	174.287749
3	Electronics	181.900585

18.

```
136 -- Expected output: Product Category, Total_Revenue
137
138 SELECT product_category,
139        SUM(total_amount) AS total_revenue
140 FROM PRACTICAL1.DATA.RETAIL_SALES
141 GROUP BY product_category
142 HAVING SUM (total_amount) >1000;
143
```

Results | Chart

	PRODUCT_CATEGORY	TOTAL_REVENUE
1	Beauty	143515
2	Clothing	155580
3	Electronics	156905

19.

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```
-- Expected output: Product Category, Average_Quantity

SELECT product_category,
     AVG(quantity) AS average_quantity
FROM PRACTICAL1.DATA.RETAIL_SALES
GROUP BY product_category
HAVING AVG(quantity)>2;
```

Results Chart

	PRODUCT_CATEGORY	AVERAGE_QUANTITY
1	Beauty	2.511401
2	Clothing	2.547009
3	Electronics	2.482456

Query
Query
Rows
Query

20.

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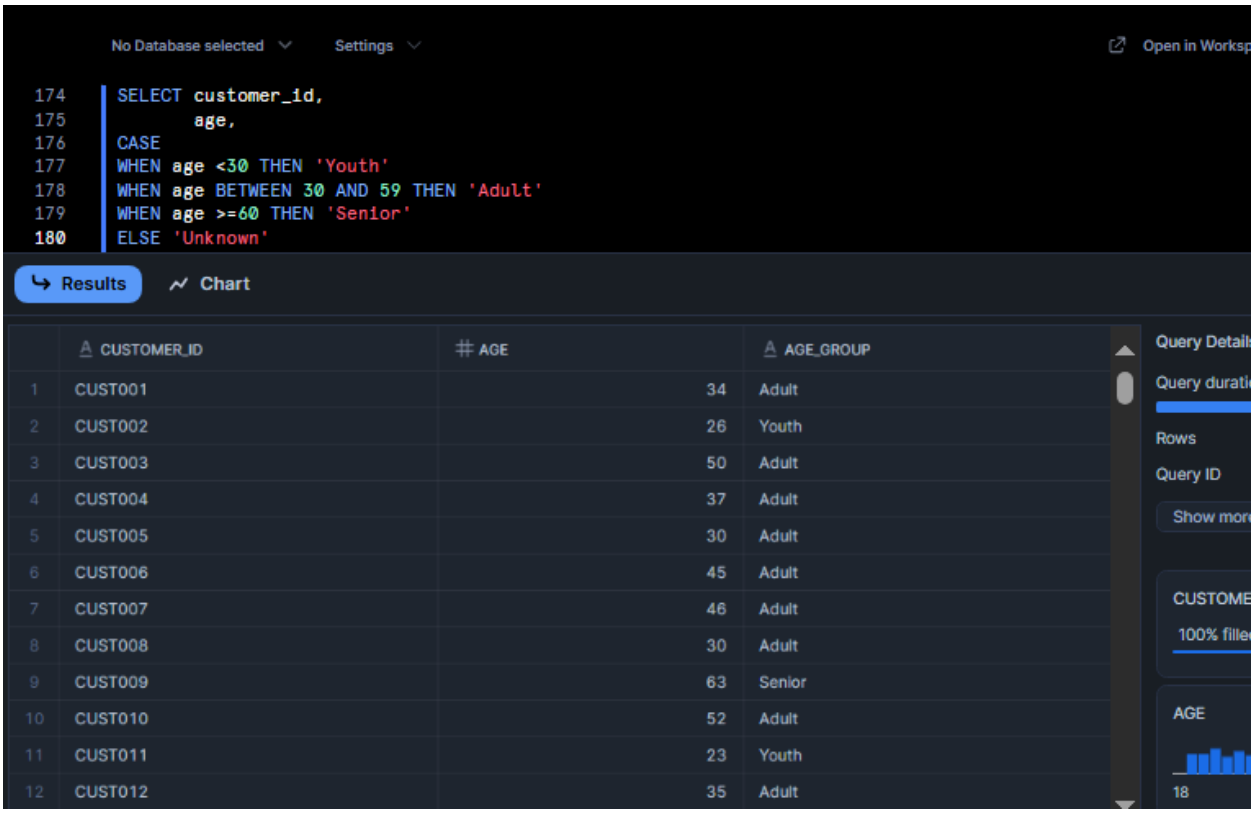
```
SELECT transaction_id,
       total_amount,
CASE
WHEN total_amount >1000 THEN 'High'
ELSE 'low'
END AS spending_level
FROM PRACTICAL1.DATA.RETAIL_SALES;
```

Results Chart

	TRANSACTION_ID	TOTAL_AMOUNT	SPENDING_LEVEL
71	71	100	low
72	72	2000	High
73	73	90	low
74	74	2000	High
75	75	200	low
76	76	100	low
77	77	100	low
78	78	1500	High
79	79	300	low
80	80	60	low
81	81	50	low
82	82	200	low

21.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Settings
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174 SELECT customer_id,
175 age,
176 CASE
177 WHEN age <30 THEN 'Youth'
178 WHEN age BETWEEN 30 AND 59 THEN 'Adult'
179 WHEN age >=60 THEN 'Senior'
180 ELSE 'Unknown'
Results
Chart
CUSTOMER_ID
AGE
AGE_GROUP
1 CUST001 34 Adult
2 CUST002 26 Youth
3 CUST003 50 Adult
4 CUST004 37 Adult
5 CUST005 30 Adult
6 CUST006 45 Adult
7 CUST007 46 Adult
8 CUST008 30 Adult
9 CUST009 63 Senior
10 CUST010 52 Adult
11 CUST011 23 Youth
12 CUST012 35 Adult
Query Detail
Query durati
Rows
Query ID
Show mor
CUSTOME
100% fille
AGE
18