Thabo Latha

Practical 1 basic SQL syntax

Question 1

PRACTICAL_1.DATASET Settings Open in Workspaces Code Versions

```
--------------------------------------------------------------------------------
--Q1 Display all columns for all transactions.
--Expected output: All columns

select *
FROM
  "PRACTICAL_1"."DATASET"."RETAIL_SALES"

--------------------------------------------------------------------------------
```

Results Chart

TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOI
1	2023-11-24	CUST001	Male	34	Beauty	3	50	
2	2023-02-27	CUST002	Female	26	Clothing	2	500	1
3	2023-01-13	CUST003	Male	50	Electronics	1	30	
4	2023-05-21	CUST004	Male	37	Clothing	1	500	
5	2023-05-06	CUST005	Male	30	Beauty	2	50	

Query Details
Query duration 437ms
Rows 1K
Query ID 01bfd224-000c-b142-0...
Show more

Question 2

```
--------------------------------------------------------------------------------
--Q2. Display only the Transaction ID, Date, and Customer ID for all records.
--Expected output: Transaction ID, Date, Customer ID

SELECT Transaction_id,Date,Customer_id
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
--------------------------------------------------------------------------------
```

sults Chart

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

Query Details
Query duration 67ms
Rows 1K
Query ID 01bfd280-000c-b142-0...
Show more

TRANSACTION_ID
1 1000

Question 3

PRACTICAL_1.DATASET Settings

```
15  ---------------------------------------------------------------------------------------
16
17  --Q3. Display all the distinct product categories in the dataset.
18  --Expected output: Product Category
19  SELECT distinct
20  product_category
21  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
22  ---------------------------------------------------------------------------------------
23
```

Results Chart

PRODUCT_CATEGORY
Clothing
Beauty
Electronics

Question 4

```
22  ---------------------------------------------------------------------------------------
23  --Q4. Display all the distinct gender values in the dataset.
24  --Expected output: Gender
25
26  SELECT Distinct
27  gender
28  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
29  ---------------------------------------------------------------------------------------
30
```

Results Chart

	GENDER
1	Male
2	Female

Question 5

```
30  --Q5. Display all transactions where the Age is greater than 40.
31  --Expected output: All columns
32  SELECT *
33  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
34  where age>40;
35
```

Results | Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOU
1	3	2023-01-13	CUST003	Male	50	Electronics	1	30	
2	6	2023-04-25	CUST006	Female	45	Beauty	1	30	
3	7	2023-03-13	CUST007	Male	46	Clothing	2	25	
4	9	2023-12-13	CUST009	Male	63	Electronics	2	300	
5	10	2023-10-07	CUST010	Female	52	Clothing	4	50	

Question 6

```
35  ------------------------------------------------------------------------------
36  --Q6. Display all transactions where the Price per Unit is between 100 and 500.
37  --Expected output: All columns
38  SELECT *
39  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
40  Where price_per_unit BETWEEN 100 AND 500;
41  ------------------------------------------------------------------------------
```

Results | Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOUNT
86	199	2023-12-04	CUST199	Male	45	Beauty	3	500	1500
87	202	2023-03-26	CUST202	Female	34	Clothing	4	300	1200
88	203	2023-05-16	CUST203	Male	56	Clothing	2	500	1000

Query Details

Query duration 87ms

Rows 396

Query ID 01bfd290-000c-b142-0...

Show more

QUESTION 7

```
--Q7. Display all transactions where the Product Category is either 'Beauty' or
--'Electronics'.
--Expected output: All columns

SELECT *
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
WHERE product_category IN('Beauty','Electronics');
```

Results | Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOU
1	1	2023-11-24	CUST001	Male	34	Beauty	3	50	1
2	3	2023-01-13	CUST003	Male	50	Electronics	1	30	
3	5	2023-05-06	CUST005	Male	30	Beauty	2	50	1
4	6	2023-04-25	CUST006	Female	45	Beauty	1	30	

Query Details
Query duration 117ms
Rows 649
Query ID 01bfd29b-000c-b142-0...
Show more

QUESTION 8

```
--Q8. Display all transactions where the Product Category is not 'Clothing'.
--Expected output: All columns

SELECT *
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
WHERE PRODUCT_CATEGORY <> 'Clothing';
```

Results | Chart

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOU
1	1	2023-11-24	CUST001	Male	34	Beauty	3	50	1
2	3	2023-01-13	CUST003	Male	50	Electronics	1	30	
3	5	2023-05-06	CUST005	Male	30	Beauty	2	50	1

Query Details
Query duration 69ms
Rows 649
Query ID 01bfd2a2-000c-b142-0...

QUESTION 9

```
--Q9. Display all transactions where the Quantity is greater than or equal to 3.
--Expected output: All columns
SELECT *
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
WHERE QUANTITY >= 3;
```

Results | Chart

TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOU
1	2023-11-24	CUST001	Male	34	Beauty	3	50	1
8	2023-02-22	CUST008	Male	30	Electronics	4	25	1
10	2023-10-07	CUST010	Female	52	Clothing	4	50	2

Query Details

Query duration 59ms

Rows 504

Query ID 01bfd2c0-000c-b142-0...

QUESTION 10

```
--Q10. Count the total number of transactions.
--Expected output: Total_Transactions

SELECT COUNT(*)  total_transactions
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
```

sults | Chart

TOTAL_TRANSACTIONS
1000

Query Details

Query duration 25ms

Rows 1

Query ID 01bfd2c8-000c-b142-0...

QUESTION 11

```
--Q11. Find the average Age of customers.
--Expected output: Average_Age

select avg(age)as average_age
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
```

Results | Chart

	AVERAGE_AGE
1	41.392000

Query Details
Query duration 571ms
Rows 1
Query ID 01bfd561-000c-b142-0...

QUESTION 12

```
--Q12. Find the total quantity of products sold.
--Expected output: Total_Quantity

SELECT SUM(quantity)as total_quantity
FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
```

Results | Chart

	TOTAL_QUANTITY
	2514

Query Details
Query duration 60ms
Rows 1
Query ID 01bfd569-000c-b142-0...

QUESTION 13

```
88  ------------------------------------------------------------------------------------------
89
90  --Q13. Find the maximum Total Amount spent in a single transaction.
91  --Expected output: Max_Total_Amount
92
93  select max(TOTAL_amount) as max_total_amount
94  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
95  ------------------------------------------------------------------------------------------
96
97
98
```

Results | Chart

	# MAX_TOTAL_AMOUNT
1	2000

Query Details

Query duration 24ms

Rows 1

Query ID 01bfd572-000c-b142-0...

QUESTION 14

```
96
97
98  --Q14. Find the minimum Price per Unit in the dataset.
99  --Expected output: Min_Price_per_Unit
100 SELECT MIN(Price_per_Unit) as Min_Price_per_Unit
101 FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES";
102
103
104 ------------------------------------------------------------------------------------------
105
106
107
```

Results | Chart

	# MIN_PRICE_PER_UNIT
1	25

Query Details

Query duration 22ms

Rows 1

Query ID 01bfd577-000c-b142-0...

QUESTION 15

```
104  ---------------------------------------------------------------------------------------------
105  --Q15. Find the number of transactions per Product Category.
106  --Expected output: Product Category, Transaction_Count
107
108  SELECT Product_Category, COUNT(*) AS Transaction_Count
109  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
110  GROUP BY Product_Category;
111
112  ---------------------------------------------------------------------------------------------
113
```

Results | Chart

	PRODUCT_CATEGORY	TRANSACTION_COUNT
1	Clothing	351
2	Beauty	307
3	Electronics	342

Query Details
Query duration 579ms
Rows 3
Query ID 01bfd57a-000c-b142-0...

QUESTION 16

```
113  ---------------------------------------------------------------------------------------------
114
115  --Q16. Find the total revenue (Total Amount) per gender.
116  --Expected output: Gender, Total_Revenue
117
118  SELECT GENDER, Count(*) as total_revenue
119  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
120  GROUP BY GENDER
121
122  ---------------------------------------------------------------------------------------------
```

Results | Chart

	GENDER	TOTAL_REVENUE
1	Male	490
2	Female	510

Query Details
Query duration 85ms
Rows 2
Query ID 01bfd580-000c-b142-0...

QUESTION 17

```
122  ---------------------------------------------------------------------------------------------
123  --Q17. Find the average Price per Unit per product category.
124  --Expected output: Product Category, Average_Price
125
126  SELECT Product_Category, AVG(Price_per_Unit) AS Average_Price
127  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
128  GROUP BY Product_Category;
129  ---------------------------------------------------------------------------------------------
130
```

Results | Chart

	PRODUCT_CATEGORY	AVERAGE_PRICE
1	Beauty	184.055375
2	Clothing	174.287749
3	Electronics	181.900585

Query Details
Query duration 77ms
Rows 3
Query ID 01bfd65e-000c-b142-0...

QUESTION 18

```
135  SELECT
136      Product_Category,
137      SUM(Quantity * Price_per_Unit) AS Total_Revenue
138  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
139  GROUP BY Product_Category
140  HAVING SUM(Quantity * Price_per_Unit) > 10000;
141
```

Results | Chart

	PRODUCT_CATEGORY	TOTAL_REVENUE
1	Beauty	143515
2	Clothing	155580
3	Electronics	156905

Query Details
Query duration 12s
Rows 3
Query ID 01bfd60e-000c-b142-0...

QUESTION 19

```
--Q19. Find the average quantity per product category where the average is more than 2.
--Expected output: Product Category, Average_Quantity

SELECT
    Product_Category,
    AVG(Quantity) AS Average_Quantity
FROM "PRACTICAL_1"."DATASET"."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 Details
Query duration 80ms
Rows 3
Query ID 01bfd615-000c-b142-0...

QUESTION 20

```
--Q20. Display a column called Spending_Level that shows 'High' if Total Amount > 1000,
--otherwise 'Low'.
--Expected output: Transaction ID, Total Amount, Spending_Level

Select transaction_id,total_amount,
case
   WHEN total_amount > 1000 then 'high'
    else 'low'
   end as spending_level
  FROM "PRACTICAL_1"."DATASET"."RETAIL_SALES"
```

Chart

TRANSACTION_ID	TOTAL_AMOUNT	SPENDING_LEVEL
1	150	low
2	1000	low
3	30	low
4	500	low

Query Details
Query duration 26ms
Rows 1K
Query ID 01bfd661-000c-b142-0...

QUESTION 21

```
177  SELECT customer_id,age,
178  case
179  when age <30 Then 'youth'
180  when age between 30 and 59 Then 'Adult'
181  when age >= 60 then 'senior'
182  end as age_group
183  from "PRACTICAL_1"."DATASET"."RETAIL_SALES";
184
185
```

Results | Chart

	CUSTOMER_ID	AGE	AGE_GROUP
1	CUST001	34	Adult
2	CUST002	26	youth
3	CUST003	50	Adult
4	CUST004	37	Adult

Query Details

Query duration 454ms

Rows 1K

Query ID 01bfd67a-000c-b142-0...