Mikateko Mpapele
Practical 1

Question 1: Display all columns for all transactions

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```
1    --Query 1:To select all columns in the table
2  | SELECT * FROM TRANSACTIONS;
3    ----------------------------------------------------------------
4    --Query2: To disply only the transaction ID,Date,Customer ID
5    SELECT transaction_id,date,customer_id
6    FROM transactions;
7    ----------------------------------------------------------------
```

↳ Results   ∿ Chart

# TRANSACTION_ID	⏱ DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUAN
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	

Question 2 : Display only the Transaction ID, Date, and Customer ID for all records.

```
3    ----------------------------------------------------------------
4    --Query2: To disply only the transaction ID,Date,Customer ID
5  | SELECT transaction_id,date,customer_id
6  | FROM transactions;
7    ----------------------------------------------------------------
```

↳ Results   ∿ Chart

# TRANSACTION_ID	⏱ DATE	A CUSTOMER_ID
1	2023-11-24	CUST001
2	2023-02-27	CUST002
3	2023-01-13	CUST003
4	2023-05-21	CUST004

Question 3 : Display all the distinct product categories in the dataset

```
8    --Query 3: To select distinct product categories in the dataset
9  | SELECT DISTINCT product_category
10 | FROM transactions;
11   ----------------------------------------------------------------
12   --Query 4: To select distinct genders in the dataset
13   SELECT DISTINCT gender
14   FROM transactions;
```

↳ Results   ∿ Chart

A PRODUCT_CATEGORY
1 Clothing
2 Beauty
3 Electronics

Question 4 : Display all the distinct gender values in the dataset

```
12      --Query 4: To select distinct genders in the dataset
13      SELECT DISTINCT gender
14      FROM transactions;
15      ----------------------------------------------------------------
16      --Query 5: To select all transactions where age>40
17      SELECT * FROM transactions
```

Results   ∿ Chart

	A GENDER
1	Male
2	Female

Question 5: Display all transactions where the Age is greater than 40.

```
15      ----------------------------------------------------------------
16      --Query 5: To select all transactions where age>40
17      SELECT * FROM transactions
18      Where AGE>40;
19      ----------------------------------------------------------------
20      --Query 6: To select all transactions where Price Per Unit is between 100 and 500:
```

Results   ∿ Chart

	# TRANSACTION_ID	⏱ DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUANTITY	# PRICE_PER_UNIT	# TOTAL_AMOUNT
1	3	2023-01-13	CUST003	Male	50	Electronics	1	30	3(
2	6	2023-04-25	CUST006	Female	45	Beauty	1	30	3(
3	7	2023-03-13	CUST007	Male	46	Clothing	2	25	5(
4	9	2023-12-13	CUST009	Male	63	Electronics	2	300	60(
5	10	2023-10-07	CUST010	Female	52	Clothing	4	50	20(
6	14	2023-01-17	CUST014	Male	64	Clothing	4	30	12(
7	15	2023-01-16	CUST015	Female	42	Electronics	4	500	200(

Question 6: Display all transactions where the Price per Unit is between 100 and 500.

```
19      ----------------------------------------------------------------
20      --Query 6: To select all transactions where Price Per Unit is between 100 and 500:
21      SELECT * FROM transactions
22      Where PRICE_PER_UNIT Between '100' and '500';
23      ----------------------------------------------------------------
24      --Query 7: to display transactions where product category is 'beauty' or 'electronics'
25      SELECT * FROM TRANSACTIONS
```

Results   ∿ Chart

	# TRANSACTION_ID	⏱ DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUANTITY	# PRICE_PER_UNIT	# TOTAL_AMOUNT
1	2	2023-02-27	CUST002	Female	26	Clothing	2	500	100(
2	4	2023-05-21	CUST004	Male	37	Clothing	1	500	50(
3	9	2023-12-13	CUST009	Male	63	Electronics	2	300	60(
4	13	2023-08-05	CUST013	Male	22	Electronics	3	500	150(
5	15	2023-01-16	CUST015	Female	42	Electronics	4	500	200(

Question 7: Display all transactions where the Product Category is either 'Beauty' or 'Electronics'.

```
23    ----------------------------------------------------------------
24    --Query 7: to display transactions where product category is 'beauty' or 'electronics'
25    SELECT PRODUCT_CATEGORY,TRANSACTION_ID,CUSTOMER_ID,DATE,AGE,GENDER,QUANTITY,PRICE_PER_UNIT,TOTAL_AMOUNT
26    FROM TRANSACTIONS
27    Where PRODUCT_CATEGORY='Beauty' OR product_category='ELECTRONICS';
28
```

↳ **Results**   ∿ Chart   🔍

	A PRODUCT_CATEGORY	# TRANSACTION_ID	A CUSTOMER_ID	⏰ DATE	# AGE	A GENDER	# QUANT
1	Beauty	1	CUST001	2023-11-24	34	Male	
2	Beauty	5	CUST005	2023-05-06	30	Male	
3	Beauty	6	CUST006	2023-04-25	45	Female	
4	Beauty	12	CUST012	2023-10-30	35	Male	
5	Beauty	21	CUST021	2023-01-14	50	Female	
6	Beauty	25	CUST025	2023-12-26	64	Female	

Query Details

Query duration

Rows

Query ID   01bft

Show more ∨

Question 8: Display all transactions where the Product Category is not 'Clothing'.

```
28    ----------------------------------------------------------------
29    --Query 8: To display all transactions where the product category is NOT clothing.
30    SELECT * FROM TRANSACTIONS
31    Where product_category NOT IN('Clothing');
32    ----------------------------------------------------------------
```

↳ **Results**   ∿ Chart

	# TRANSACTION_ID	⏰ DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUANT
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	

Question 9: Display all transactions where the Quantity is greater than or equal to 3.

```
32    ----------------------------------------------------------------
33    --Query 9: to display where quanity is greater than or equal to 3
34    SELECT*FROM TRANSACTIONS
35    WHERE QUANTITY>=3;
36    ----------------------------------------------------------------
37    --Query 10: count of total number of transactions
```

↳ **Results**   ∿ Chart

	# TRANSACTION_ID	⏰ DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUANT
1	1	2023-11-24	CUST001	Male	34	Beauty	
2	8	2023-02-22	CUST008	Male	30	Electronics	
3	10	2023-10-07	CUST010	Female	52	Clothing	
4	12	2023-10-30	CUST012	Male	35	Beauty	

Question 10: Count the total number of transactions

```
36    ---------------------------------------------------------------------
37    --Query 10: count of total number of transactions
38    SELECT COUNT(transaction_id) AS total_number_of_transactions
39    FROM TRANSACTIONS;
40    ---------------------------------------------------------------------
41    --Query 11: to find the average age of customers
42    SELECT avg(age) AS avg_age
```

↳ Results   ∿ Chart

TOTAL_NUMBER_OF_TRANSACTIONS
1000

Question 11: Find the average Age of customers.

```
40    ---------------------------------------------------------------------
41    --Query 11: to find the average age of customers
42    SELECT avg(age) AS avg_age
43    FROM TRANSACTIONS;
44    ---------------------------------------------------------------------
45    --Query 12: total quantity of products sold
46    SELECT sum(quantity) AS total_quantity_sold
```

↳ Results   ∿ Chart

AVG_AGE
41.392000

Question 12: Find the total quantity of products sold.

```
45    --Query 12: total quantity of products sold
46    SELECT sum(quantity) AS total_quantity_sold
47    FROM TRANSACTIONS;
48    ---------------------------------------------------------------------
49    --Query 13: maximum total amount spent in a single transaction
50    SELECT max(total_amount) AS max_total_amount
51    FROM TRANSACTIONS;
```

→ Results   ∿ Chart

TOTAL_QUANTITY_SOLD
2514

Question 13: Find the maximum Total Amount spent in a single transaction.

```
49    --Query 13: maximum total amount spent in a single transaction
50    SELECT max(total_amount) AS max_total_amount
51    FROM TRANSACTIONS;
52    ---------------------------------------------------------------------
53    --Query 14: minimum price in the dataset
54    SELECT min(price_per_unit) AS min_price_per_unit
55    FROM TRANSACTIONS;
56    ---------------------------------------------------------------------
```

→ Results   ∿ Chart

MAX_TOTAL_AMOUNT
2000

Question 14: Find the minimum Price per Unit in the dataset

```
53     --Query 14: minimum price in the dataset
54 ∨   SELECT min(price_per_unit) AS min_price_per_unit
55     FROM TRANSACTIONS;
56     ----------------------------------------------------------------
57     --Query 15: number of transactions per product category
58 ∨   SELECT product_category,
59            count(transaction_id) AS Transaction_count
```

↳ Results   ∿ Chart

	# MIN_PRICE_PER_UNIT
1	25

Question 15: Find the number of transactions per Product Category.

```
57     --Query 15: number of transactions per product category
58 ∨   SELECT product_category,
59            count(transaction_id) AS Transaction_count
60     FROM TRANSACTIONS
61     GROUP BY product_category;
62     ----------------------------------------------------------------
```

↳ Results   ∿ Chart

	A PRODUCT_CATEGORY	# TRANSACTION_COUNT
1	Beauty	307
2	Clothing	351
3	Electronics	342

Question 16: Find the total revenue (Total Amount) per gender.

```
65     --Query 16: total revenue (total amount) per gender
66     SELECT sum(total_amount) AS total_revenue,gender
67     FROM TRANSACTIONS
68     GROUP BY gender;
69     ----------------------------------------------------------------
70     --Query 17: average price per unit per category
71     SELECT avg(price_per_unit) AS avg_price,product_category
72     FROM TRANSACTIONS
```

→ Results   ∿ Chart

	# TOTAL_REVENUE	A GENDER
	223160	Male
	232840	Female

Question 17: Find the average Price per Unit per product category.

```
70    --Query 17: average price per unit per category
71    SELECT avg(price_per_unit) AS avg_price,product_category
72    FROM TRANSACTIONS
73    GROUP BY product_category;
74    ------------------------------------------------------------------
75    --Query 18:total revenue per category where total revenue>10000
76    SELECT sum(total_amount) AS total_revenue, product_category
77    FROM TRANSACTIONS
```

Results   Chart

# AVG_PRICE	A PRODUCT_CATEGORY
184.055375	Beauty
174.287749	Clothing
181.900585	Electronics

Question 18: Find the total revenue per product category where total revenue is greater than 10,000.

```
75    --Query 18:total revenue per category where total revenue>10000
76    SELECT sum(total_amount) AS total_revenue, product_category
77    FROM TRANSACTIONS
78    GROUP BY product_category
79    HAVING total_revenue>10000;
80    ------------------------------------------------------------------
```

Results   Chart

	# TOTAL_REVENUE	A PRODUCT_CATEGORY	
1	143515	Beauty	
2	155580	Clothing	
3	156905	Electronics	

Question 19: Find the average quantity per product category where the average is more than 2.

```
81    --Query 19: average quantity per product category where avg_quantity>2
82    SELECT product_category, avg(quantity) AS avg_quantity
83    FROM TRANSACTIONS
84    GROUP BY product_category
85    HAVING avg_quantity>2;
86    ------------------------------------------------------------------
87    --Query 20: flag total amount spent
88    SELECT transaction_id,total_amount
```

Results   Chart

	A PRODUCT_CATEGORY	# AVG_QUANTITY
1	Beauty	2.511401
2	Clothing	2.547009
3	Electronics	2.482456

Question 20: Display a column called Spending_Level that shows 'High' if Total Amount > 1000, otherwise 'Low'.

```
86    -------------------------------------------------------------------------
87    --Query 20: flag total amount spent
88    SELECT transaction_id,total_amount,
89    CASE
90        When total_amount >1000 then 'High'
91        ELSE 'Low'
92    END AS Spending_Level
93    FROM TRANSACTIONS;
94    -------------------------------------------------------------------------
95    --Query 21: age group column
96    SELECT customer_id, age,
```

↳ **Results**   ∿ Chart

# TRANSACTION_ID	# TOTAL_AMOUNT	A SPENDING_LEVEL
1	150	Low
2	1000	Low
3	30	Low
4	500	Low
5	100	Low

Question 21: Display a new column called Age_Group

```
94    -------------------------------------------------------------------------
95    --Query 21: age group column
96    SELECT customer_id, age,
97    CASE
98        When age<30 then 'Youth'
99        When age between '30' and '59' then 'Adult'
100       When age>=60 then 'Senior'
101   END AS Age_Group
102   FROM TRANSACTIONS;
```

↳ **Results**   ∿ Chart

A CUSTOMER_ID	# AGE	A AGE_GROUP
1	CUST001	34	Adult
2	CUST002	26	Youth
3	CUST003	50	Adult
4	CUST004	37	Adult
5	CUST005	30	Adult