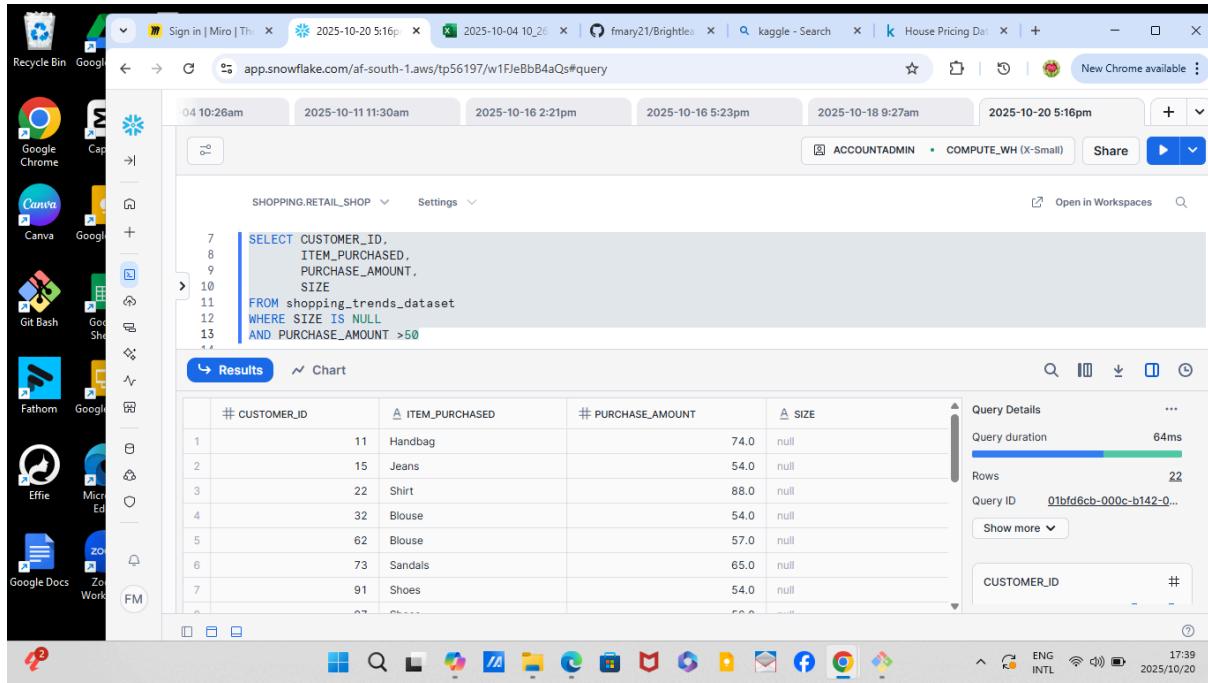


PRACTICAL 3 - FADZAI MAKANDA



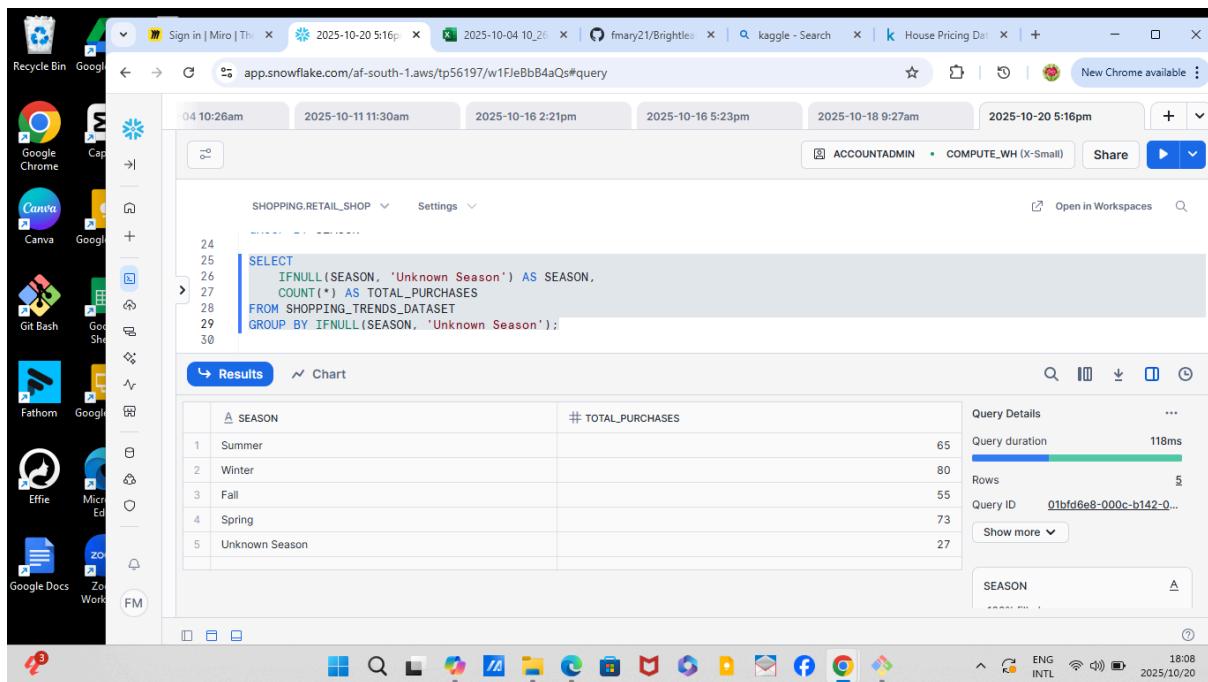
A screenshot of a web browser window showing a Snowflake query results page. The browser has multiple tabs open, including 'Sign in | Miro', '2025-10-04 10:20am', '2025-10-04 10:20pm', 'fmary21/Brightleaf', 'kaggle - Search', 'House Pricing Data', and 'app.snowflake.com/af-south-1.aws/tp56197/w1FjeBb84aQs#query'. The main content area displays a query result for the 'SHOPPING.RETAIL_SHOP' dataset. The query is:`SELECT CUSTOMER_ID,
 ITEM_PURCHASED,
 PURCHASE_AMOUNT,
 SIZE
 FROM shopping_trends_dataset
 WHERE SIZE IS NULL
 AND PURCHASE_AMOUNT > 50`

The results table shows 22 rows of data:

CUSTOMER_ID	ITEM_PURCHASED	PURCHASE_AMOUNT	SIZE	
1	11	Handbag	74.0	null
2	15	Jeans	54.0	null
3	22	Shirt	88.0	null
4	32	Blouse	54.0	null
5	62	Blouse	57.0	null
6	73	Sandals	65.0	null
7	91	Shoes	54.0	null
...

Query Details: Query duration 64ms, Rows 22, Query ID 01bfd6cb-000c-b142-0...
Customer ID

QUESTION 1 - FADZAI MAKANDA



A screenshot of a web browser window showing a Snowflake query results page. The browser has multiple tabs open, including 'Sign in | Miro', '2025-10-04 10:20am', '2025-10-04 10:20pm', 'fmary21/Brightleaf', 'kaggle - Search', 'House Pricing Data', and 'app.snowflake.com/af-south-1.aws/tp56197/w1FjeBb84aQs#query'. The main content area displays a query result for the 'SHOPPING.RETAIL_SHOP' dataset. The query is:`SELECT
 IFNULL(SEASON, 'Unknown Season') AS SEASON,
 COUNT(*) AS TOTAL_PURCHASES
 FROM SHOPPING_TRENDS_DATASET
 GROUP BY IFNULL(SEASON, 'Unknown Season');`

The results table shows 5 rows of data:

SEASON	TOTAL_PURCHASES
Summer	65
Winter	80
Fall	55
Spring	73
Unknown Season	27

Query Details: Query duration 118ms, Rows 5, Query ID 01bfd6e8-000c-b142-0...
Season

QUESTION 2

```

26
27 ---3. Count how many customers used each Payment Method, treating NULLs as 'Not Provided'.
28 ---Expected Columns: Payment Method, Customer Count.
29
30 SELECT COUNT(*) AS CUSTOMER_COUNT,
31       IFNULL(PAYMENT_METHOD, 'NOT PROVIDED') AS PAYMENT_METHOD
32   FROM SHOPPING_TRENDS_DATASET
33 GROUP BY TABLE(PAYMENT_METHOD, 'NOT PROVIDED');

```

Results

CUSTOMER_COUNT	PAYMENT_METHOD
1	Credit Card
2	PayPal
3	Debit Card
4	Cash
5	NOT PROVIDED
6	Bank Transfer
7	Venmo

Query Details

- Query duration: 716ms
- Rows: 7
- Query ID: 01bfd71a-000c-b142-0...

QUESTION 3 - FADZAI MAKANDA

```

37
38 ---4. Show customers where Promo Code Used is NULL and Review Rating is below 3.0.
39 ---Expected Columns: Customer ID, Promo Code Used, Review Rating, Item Purchased
40
41 SELECT CUSTOMER_ID,
42       ITEM_PURCHASED,
43       REVIEW_RATING,
44       PROMO_CODE_USED

```

Results

CUSTOMER_ID	ITEM_PURCHASED	REVIEW_RATING	PROMO_CODE_USED
1	Jeans	2.5	null
2	Jeans	2.6	null
3	Jeans	2.5	null
4	Sneakers	2.6	null
5	Sneakers	2.8	null
6	Shoes	2.5	null
7	Shorts	2.5	null

Query Details

- Query duration: 69ms
- Rows: 8
- Query ID: 01bfd722-000c-b142-0...

QUESTION 4

```

51 ---type, and return the average purchase_amount, creating missing values as null.
52 ---Expected Columns: Shipping Type, Average purchase_amount
53
54     SELECT
55         SHIPPING_TYPE,
56         AVG(IFNULL(PURCHASE_AMOUNT, 0)) AS AVERAGE_PURCHASE_AMOUNT
57     FROM SHOPPING_TRENDS_DATASET
58     GROUP BY SHIPPING_TYPE;

```

Results

SHIPPING_TYPE	AVERAGE_PURCHASE_AMOUNT
Standard	47.6666667
Express	53.4545455
Store Pickup	55.3333333
null	52.7037037
Free Shipping	50.2142857
Next Day Air	54.8666667
2-Day Shipping	51.5576923

Query Details

- Query duration: 413ms
- Rows: 7
- Query ID: 01bfd735-000c-b142-0...

QUESTION 5

```

62
63     SELECT COUNT(*) AS TOTAL_PURCHASES,
64             LOCATION
65     FROM SHOPPING_TRENDS_DATASET
66     WHERE PAYMENT_METHOD IS NOT NULL
67     GROUP BY LOCATION
68     HAVING COUNT(*) > 5;

```

Results

TOTAL_PURCHASES	LOCATION
41	Maine
30	Kentucky
24	null
31	New York
30	Oregon
29	Rhode Island
32	Florida

Query Details

- Query duration: 445ms
- Rows: 9
- Query ID: 01bfd743-000c-b142-0...

QUESTION 6 - FADZAI MAKANDA

```

    78 IFNULL(PURCHASE_AMOUNT,0) AS PURCHASE_AMOUNT,
    79 CASE WHEN PURCHASE_AMOUNT >80 THEN 'High'
    80 WHEN PURCHASE_AMOUNT BETWEEN 50 AND 80 THEN 'Medium'
    81 ELSE 'Low'
    82 END AS SPENDER_CATEGORY
    83
    84 FROM SHOPPING_TRENDS_DATASET;
  
```

# CUSTOMER_ID	# PURCHASE_AMOUNT	SPENDER_CATEGORY
1	20.0	Low
2	21.0	Low
3	27.0	Low
4	45.0	Low
5	80.0	Medium
6	82.0	High
7	50.0	Medium

Query Details
Query duration: 414ms
Rows: 300
Query ID: 01bfd765-000c-b142-0...
Show more
CUSTOMER_ID #

QUESTION 7

```

    92 SELECT CUSTOMER_ID,
    93 COLOR,
    94 PREVIOUS_PURCHASES
    95 FROM SHOPPING_TRENDS_DATASET
    96 WHERE PREVIOUS_PURCHASES IS NOT NULL AND COLOR IS NOT NULL;
    97
  
```

# CUSTOMER_ID	COLOR	# PREVIOUS_PURCHASES
1	Green	null
2	Yellow	null
3	White	null
4	Maroon	null
5	Gray	null
6	Black	null
7	Green	null
8	White	null
9	Maroon	null

Query Details
Query duration: 1.1s
Rows: 36
Query ID: 01bfd94-000c-b1ef-00...
Show more
CUSTOMER_ID #

QUESTION 8

```
98 ---9. Group records by Frequency of
99 ---Purchases and show the total amount spent per group, treating NULL frequencies as 'Unknown'
100 ---Expected Columns: Frequency of Purchases, Total purchase_amount
101
102     SELECT COUNT(PURCHASE_AMOUNT)AS TOTAL_PURCHASE_AMOUNT,
103           IFNULL(FREQUENCY_OF_PURCHASES,'Unknown')AS FREQUENCY_OF_PURCHASES
104     FROM SHOPPING_TRENDS_DATASET
```

TOTAL_PURCHASE_AMOUNT	FREQUENCY_OF_PURCHASES
29	Every 3 Months
38	Weekly
36	Bi-Weekly
31	Monthly
35	Fortnightly
30	Annually
24	Unknown

Query Details
Query duration 472ms
Rows 8
Query ID 01bfd790-000c-b142-0...
Show more

QUESTION 9

```
117
118     SELECT
119         CATEGORY,
120         COUNT(*) AS TOTAL_PURCHASES
121     FROM SHOPPING_TRENDS_DATASET
122     WHERE CATEGORY IS NOT NULL
123     GROUP BY CATEGORY;
```

CATEGORY	TOTAL_PURCHASES
Outerwear	60
Footwear	70
Clothing	59
Accessories	78

Query Details
Query duration 81ms
Rows 4
Query ID 01bfd799-000c-b142-0...
Show more

QUESTION 10

```

129
130     SELECT
131         IFNULL(LOCATION, 'Unknown') AS LOCATION,
132         SUM(IFNULL(PURCHASE_AMOUNT, 0)) AS TOTAL_PURCHASE_AMOUNT
133     FROM SHOPPING_TRENDS_DATASET
134     GROUP BY IFNULL(LOCATION, 'Unknown')
135     ORDER BY TOTAL_PURCHASE_AMOUNT DESC
136     LIMIT 5;

```

Results

LOCATION	TOTAL_PURCHASE_AMOUNT
Maine	2294.0
Florida	1980.0
Massachusetts	1899.0
Rhode Island	1876.0
Kentucky	1798.0

Query Details

- Query duration: 453ms
- Rows: 5
- Query ID: 01bfd7ae-000c-b142-0...

QUESTION 11 - FADZAI MAKANDA

```

144
145     GENDER,
146     SIZE,
147     COUNT(*) AS NULL_COLOR_COUNT
148     FROM SHOPPING_TRENDS_DATASET
149     WHERE COLOR IS NULL
150     GROUP BY GENDER, SIZE;

```

Results

GENDER	SIZE	NULL_COLOR_COUNT
Male	null	6
Male	M	7
Male	L	6
Male	S	5
Male	XL	5

Query Details

- Query duration: 638ms
- Rows: 5
- Query ID: 01bfd7bb-000c-b142-0...

QUESTION 12

```

149 SELECT ITEM_PURCHASED,
150 COUNT(*) AS NULL_SHIPPING_TYPE_COUNT
151 FROM SHOPPING_TRENDS_DATASET
152 GROUP BY ITEM_PURCHASED
153 HAVING NULL_SHIPPING_TYPE_COUNT > 3;
154

```

ITEM_PURCHASED	NULL_SHIPPING_TYPE_COUNT
Shirt	26
Jeans	25
Sweater	27
Coat	21
Sandals	32
Sneakers	39
Handbag	20
Shoes	26
Shorts	30

Query Details
Query duration: 549ms
Rows: 11
Query ID: 01bfae1-000c-b142-0...
Show more
ITEM_PURCHASED 91% filled 9% null

QUESTION 13 - FADZAI MAKANDA

```

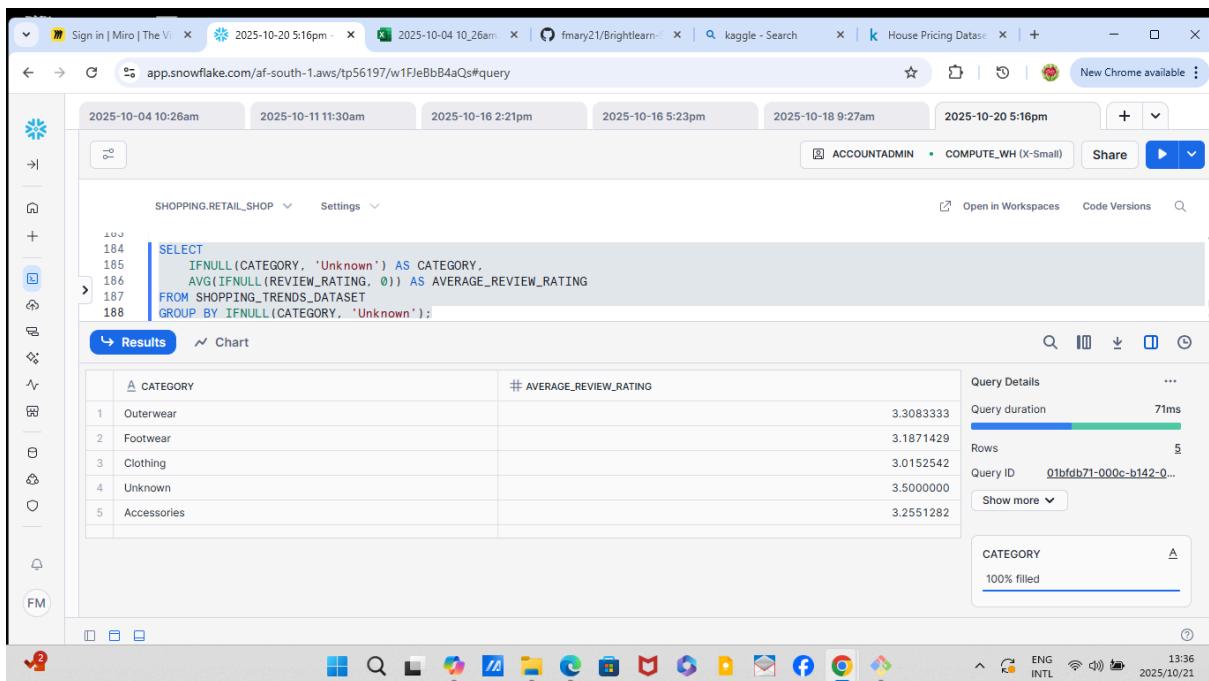
160 SELECT COUNT(*) AS NULL_REVIEW_RATING_COUNT,
161 PAYMENT_METHOD
162 FROM SHOPPING_TRENDS_DATASET
163 GROUP BY PAYMENT_METHOD;
164
165

```

NULL_REVIEW_RATING_COUNT	PAYMENT_METHOD
42	Debit Card
53	Venmo
44	Credit Card
42	Cash
51	PayPal
30	null
38	Bank Transfer

Query Details
Query duration: 493ms
Rows: 2
Query ID: 01bfb59-000c-b142-0...
Show more
NULL_REVIEW_RATING_COUNT #

QUESTION 14



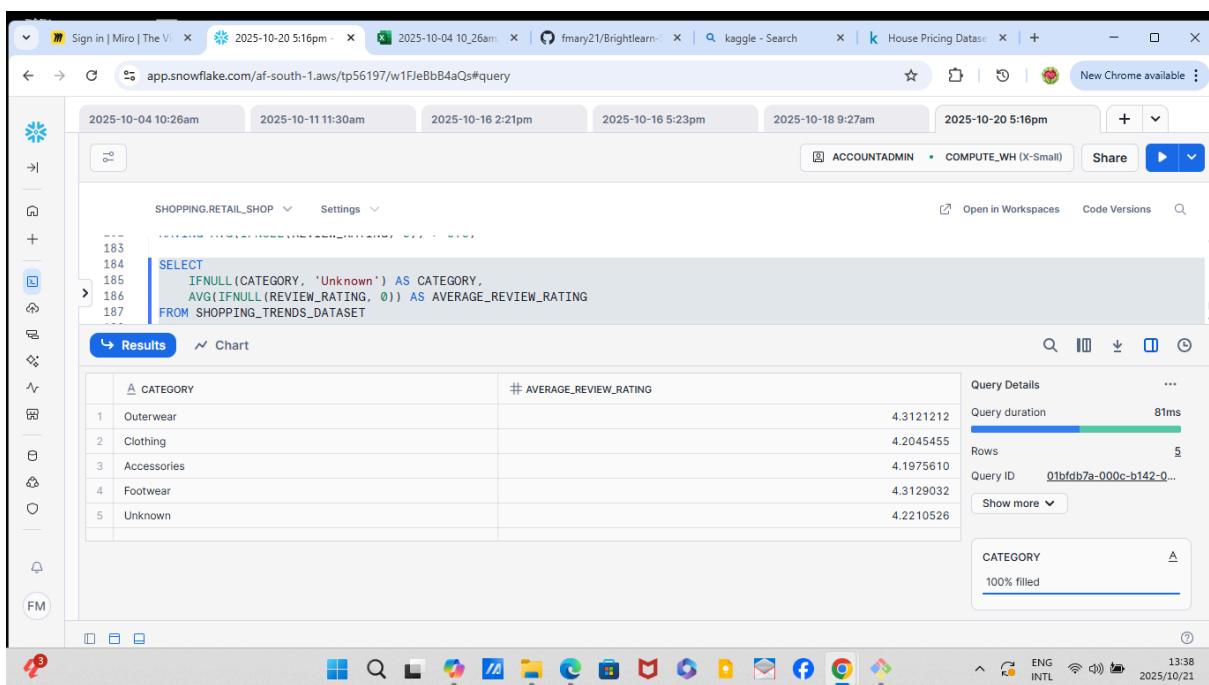
```
184 SELECT
185   IFNULL(CATEGORY, 'Unknown') AS CATEGORY,
186   AVG(IFNULL(REVIEW_RATING, 0)) AS AVERAGE REVIEW_RATING
187   FROM SHOPPING_TRENDS_DATASET
188 GROUP BY IFNULL(CATEGORY, 'Unknown');
```

CATEGORY	AVERAGE REVIEW_RATING
Outerwear	3.308333
Footwear	3.1871429
Clothing	3.0152542
Unknown	3.5000000
Accessories	3.2551282

Query Details
Query duration 71ms
Rows 5
Query ID 01bfdb71-000c-b142-0...
Show more

100% filled

QUESTION 15



```
183
184 SELECT
185   IFNULL(CATEGORY, 'Unknown') AS CATEGORY,
186   AVG(IFNULL(REVIEW_RATING, 0)) AS AVERAGE REVIEW_RATING
187   FROM SHOPPING_TRENDS_DATASET
```

CATEGORY	AVERAGE REVIEW_RATING
Outerwear	4.3121212
Clothing	4.2045455
Accessories	4.1975610
Footwear	4.3129032
Unknown	4.2210526

Query Details
Query duration 81ms
Rows 5
Query ID 01bfdb7a-000c-b142-0...
Show more

100% filled

QUESTION 15

```
188 COALESCE(COLOR, 'Missing') AS COLOR,
189 AVG(AGE) AS AVG_AGE
190 FROM SHOPPING_TRENDS_DATASET
191 WHERE COLOR IS NULL
192 GROUP BY COALESCE(COLOR, 'Missing')
```

COLOR	AVG_AGE
Missing	47.8461538

Query Details
Query duration 432ms
Rows 1
Query ID 01bfd8a4-000c-b142-0...
Show more

Color
100% filled

QUESTION 16 - FADZAI MAKANDA

```
205 CASE
206 WHEN SHIPPING_TYPE IN ('Express', 'Next Day Air') THEN 'Fast'
207 WHEN SHIPPING_TYPE = 'Standard' THEN 'Slow'
208 ELSE 'Other'
209 END AS DELIVERY_SPEED,
210 COUNT(*) AS CUSTOMFR_COUNT
```

DELIVERY_SPEED	CUSTOMFR_COUNT
Other	166
Fast	89
Slow	45

Query Details
Query duration 486ms
Rows 3
Query ID 01bfd8bc4-000c-b142-0...
Show more

Delivery Speed
100% filled

QUESTION 17 - FADZAI MAKANDA

```

219     PURCHASE_AMOUNT ,
220     PROMO_CODE_USED
221   FROM SHOPPING_TRENDS_DATASET
222 WHERE PURCHASE_AMOUNT IS NULL
223 AND PROMO_CODE_USED = 'YES'

```

# CUSTOMER_ID	PURCHASE_AMOUNT	0 1 PROMO_CODE_USED
1	null	TRUE
2	null	TRUE
3	null	TRUE
4	null	TRUE
5	null	TRUE
6	null	TRUE
7	null	TRUE
8	null	TRUE
9	153	TRUE

Query Details

- Query duration: 409ms
- Rows: 20
- Query ID: 01bfdabd2-000c-b142-0...

CUSTOMER_ID

QUESTION 18 - FADZAI MAKANDA

```

229   SELECT AVG(REVIEW_RATING) AS AVERAGE_REVIEW_RATING,
230         IFNULL( MAX(PREVIOUS_PURCHASES),0 ) AS MAX_REVIEW_RATING,
231         LOCATION
232   FROM SHOPPING_TRENDS_DATASET
233  GROUP BY LOCATION

```

# AVERAGE_REVIEW_RATING	# MAX_REVIEW_RATING	LOCATION
3.7428571	50.0	Rhode Island
3.7107143	46.0	Kentucky
3.5523810	47.0	Texas
3.6580645	47.0	Massachusetts
3.5956522	50.0	null
3.6133333	50.0	Oregon
3.9280000	49.0	New York
3.7815789	47.0	Maine
3.5312500	49.0	Florida

Query Details

- Query duration: 83ms
- Rows: 9
- Query ID: 01bfdcd03-000c-b142-0...

AVERAGE_REVIEW_RATING

QUESTION 19

```

SELECT CUSTOMER_ID,
       SHIPPING_TYPE,
       PURCHASE_AMOUNT,
       ITEM_PURCHASED
  FROM SHOPPING_TRENDS_DATASET
 WHERE SHIPPING_TYPE IS NULL

```

# CUSTOMER_ID	# SHIPPING_TYPE	# PURCHASE_AMOUNT	# ITEM_PURCHASED
1	15	54.0	Jeans
2	105	43.0	Shirt
3	141	37.0	Shorts
4	196	66.0	Coat
5	213	36.0	Shirt
6	235	38.0	Sandals
7	293	35.0	null

Query Details

- Query duration: 623ms
- Rows: 7
- Query ID: 01bfdc34-000c-b1ef-00...

Customer ID

QUESTION 20 - FADZAI MAKANDA

CODE

```

SELECT*
  FROM SHOPPING_TRENDS_DATASET;
-----
```

---1. Find all records where Size is missing and the purchase_amount is greater than 50.
---Expected Columns: Customer ID, Size, purchase_amount, Item Purchased.

```

SELECT CUSTOMER_ID,
       ITEM_PURCHASED,
       PURCHASE_AMOUNT,
       SIZE
  FROM shopping_trends_dataset
 WHERE SIZE IS NULL
 AND PURCHASE_AMOUNT >50;
-----
```

---2. List the total number of purchases grouped by Season, treating NULL values as 'Unknown Season'.
---Expected Columns: Season, Total Purchases.

```

SELECT
  IFNULL(SEASON, 'Unknown Season') AS SEASON,
  COUNT(*) AS TOTAL_PURCHASES
-----
```

```
FROM SHOPPING_TRENDS_DATASET  
GROUP BY IFNULL(SEASON, 'Unknown Season');
```

---3. Count how many customers used each Payment Method, treating NULLs as "Not Provided".

---Expected Columns: Payment Method, Customer Count.

```
SELECT COUNT(*) AS CUSTOMER_COUNT,  
    IFNULL(PAYMENT_METHOD, 'NOT PROVIDED') AS PAYMENT_METHOD  
FROM SHOPPING_TRENDS_DATASET  
GROUP BY IFNULL(PAYMENT_METHOD, 'NOT PROVIDED');
```

---4. Show customers where Promo Code Used is NULL and Review Rating is below 3.0.

---Expected Columns: Customer ID, Promo Code Used, Review Rating, Item Purchased

```
SELECT CUSTOMER_ID,  
    ITEM_PURCHASED,  
    REVIEW_RATING,  
    PROMO_CODE_USED  
FROM SHOPPING_TRENDS_DATASET  
WHERE PROMO_CODE_USED IS NULL  
    AND REVIEW_RATING < 3.0
```

--- 5. Group customers by Shipping

---Type, and return the average purchase_amount, treating missing values as 0.

---Expected Columns: Shipping Type, Average purchase_amount

```
SELECT  
    SHIPPING_TYPE,  
    AVG(IFNULL(PURCHASE_AMOUNT, 0)) AS AVERAGE_PURCHASE_AMOUNT  
FROM SHOPPING_TRENDS_DATASET  
GROUP BY SHIPPING_TYPE;
```

---6. Display the number of purchases per Location only for those with more than 5 purchases and no NULL Payment Method.

---Expected Columns: Location, Total Purchases

```
SELECT COUNT(*) AS TOTAL_PURCHASES,  
    LOCATION  
FROM SHOPPING_TRENDS_DATASET  
WHERE PAYMENT_METHOD IS NOT NULL  
GROUP BY LOCATION
```

```
HAVING COUNT(*) > 5;
```

---7. Create a column Spender Category that classifies customers using CASE:

---'High' if amount > 80, 'Medium' if BETWEEN 50 AND 80,

---'Low' otherwise. Replace NULLs in purchase_amount with 0.

---Expected Columns: Customer ID, purchase_amount, Spender Category

```
SELECT CUSTOMER_ID,
    IFNULL(PURCHASE_AMOUNT,0) AS PURCHASE_AMOUNT,
    CASE WHEN PURCHASE_AMOUNT > 80 THEN 'High'
        WHEN PURCHASE_AMOUNT BETWEEN 50 AND 80 THEN 'Medium'
        ELSE 'Low'
    END AS SPENDER_CATEGORY
FROM SHOPPING_TRENDS_DATASET;
```

---8. Find customers who have no Previous

---Purchases value but whose Color is not NULL.

---Expected Columns: Customer ID, Color, Previous Purchases.

```
SELECT CUSTOMER_ID,
    COLOR,
    PREVIOUS_PURCHASES
FROM SHOPPING_TRENDS_DATASET
WHERE PREVIOUS_PURCHASES IS NOT NULL AND COLOR IS NOT NULL;
```

---9. Group records by Frequency of

---Purchases and show the total amount spent per group, treating NULL frequencies as
'Unknown'

---Expected Columns: Frequency of Purchases, Total purchase_amount

```
SELECT COUNT(PURCHASE_AMOUNT) AS TOTAL_PURCHASE_AMOUNT,
    IFNULL(FREQUENCY_OF_PURCHASES,'Unknown') AS
    FREQUENCY_OF_PURCHASES
FROM SHOPPING_TRENDS_DATASET
GROUP BY IFNULL(FREQUENCY_OF_PURCHASES,'Unknown')
```

---10. Display a list of all Category values with the number of times each was purchased,

--- excluding rows where Category is NULL.

---Expected Columns: Category, Total Purchases

```
SELECT
```

```
CATEGORY,  
COUNT(*) AS TOTAL_PURCHASES  
FROM SHOPPING_TRENDS_DATASET  
WHERE CATEGORY IS NOT NULL  
GROUP BY CATEGORY;
```

--

---11.Return the top 5 Locations with the highest total purchase_amount, replacing NULLs in amount with 0.

---Expected Columns: Location, Total purchase_amount

```
SELECT  
IFNULL(LOCATION, 'Unknown') AS LOCATION,  
SUM(IFNULL(PURCHASE_AMOUNT, 0)) AS TOTAL_PURCHASE_AMOUNT  
FROM SHOPPING_TRENDS_DATASET  
GROUP BY IFNULL(LOCATION, 'Unknown')  
ORDER BY TOTAL_PURCHASE_AMOUNT DESC  
LIMIT 5;
```

---12.Group customers by Gender and Size, and count how many entries have a NULL Color.

---Expected Columns: Gender, Size, Null Color Count

```
SELECT  
GENDER,  
SIZE,  
COUNT(*) AS NULL_COLOR_COUNT  
FROM SHOPPING_TRENDS_DATASET  
WHERE COLOR IS NULL  
GROUP BY GENDER, SIZE;
```

---13.Identify all Item Purchased where more than 3 purchases had NULL Shipping Type.

---Expected Columns: Item Purchased, NULL Shipping Type Count

```
SELECT ITEM_PURCHASED,  
COUNT(*)AS NULL_SHIPPING_TYPE_COUNT  
FROM SHOPPING_TRENDS_DATASET  
GROUP BY ITEM_PURCHASED  
HAVING NULL_SHIPPING_TYPE_COUNT >3;
```

--

---14.Show a count of how many customers per Payment Method have NULL Review Rating.

--Expected Columns: Payment Method, Missing Review Rating Count

```
SELECT COUNT(*) AS NULL_REVIEWS_RATING_COUNT,  
       PAYMENT_METHOD  
  FROM SHOPPING_TRENDS_DATASET  
 GROUP BY PAYMENT_METHOD;
```

--

---15.Group by Category and return the average Review Rating, replacing NULLs with 0,
---and filter only where average is greater than 3.5.

--Expected Columns: Category, Average Review Rating.

```
SELECT  
       IFNULL(CATEGORY, 'Unknown') AS CATEGORY,  
       AVG(IFNULL(REVIEW_RATING, 0)) AS AVERAGE REVIEW_RATING  
  FROM SHOPPING_TRENDS_DATASET  
 WHERE REVIEW_RATING > 3.5  
 GROUP BY IFNULL(CATEGORY, 'Unknown');
```

--

---16. List all Colors that are missing (NULL) in at least 2 rows and the average Age of those rows.

--Expected Columns: Color, Average Age

```
SELECT  
       COALESCE(COLOR, 'Missing') AS COLOR,  
       AVG(AGE) AS AVG_AGE  
  FROM SHOPPING_TRENDS_DATASET  
 WHERE COLOR IS NULL  
 GROUP BY COALESCE(COLOR, 'Missing')  
 HAVING COUNT(*) >= 2;
```

--

---17.Use CASE to create a column Delivery Speed: 'Fast' if Shipping Type is 'Express' or
---'Next Day Air', 'Slow' if 'Standard',
---'Other' for all else including NULL. Then count how many customers fall into each category.

--Expected Columns: Delivery Speed, Customer Count

```

SELECT
CASE
    WHEN SHIPPING_TYPE IN ('Express', 'Next Day Air') THEN 'Fast'
    WHEN SHIPPING_TYPE = 'Standard' THEN 'Slow'
    ELSE 'Other'
END AS DELIVERY_SPEED,
COUNT(*) AS CUSTOMER_COUNT
FROM SHOPPING_TRENDS_DATASET
GROUP BY
CASE
    WHEN SHIPPING_TYPE IN ('Express', 'Next Day Air') THEN 'Fast'
    WHEN SHIPPING_TYPE = 'Standard' THEN 'Slow'
    ELSE 'Other'
END;

```

---18.Find customers whose purchase_amount is NULL and whose Promo Code Used is 'Yes'.

---Expected Columns: Customer ID, purchase_amount, Promo Code Used

```

SELECT CUSTOMER_ID,
PURCHASE_AMOUNT,
PROMO_CODE_USED
FROM SHOPPING_TRENDS_DATASET
WHERE PURCHASE_AMOUNT IS NULL
AND PROMO_CODE_USED = 'YES';

```

---19.Group by Location and show the maximum Previous Purchases, replacing NULLs with 0, only where the average rating is above 4.0.

---Expected Columns: Location, Max Previous Purchases, Average Review Rating.

```

SELECT AVG(REVIEW_RATING) AS AVERAGE REVIEW RATING,
IFNULL( MAX(PREVIOUS PURCHASES),0) AS MAX REVIEW RATING,
LOCATION
FROM SHOPPING_TRENDS_DATASET
GROUP BY LOCATION
HAVING AVERAGE REVIEW RATING > 4.0

```

---20.Show customers who have a NULL Shipping Type but made a purchase in the range of 30 to 70 USD.

---Expected Columns: Customer ID, Shipping Type, purchase_amount, Item Purchased

```
SELECT CUSTOMER_ID,  
    SHIPPING_TYPE,  
    PURCHASE_AMOUNT,  
    ITEM_PURCHASED  
FROM SHOPPING_TRENDS_DATASET  
WHERE SHIPPING_TYPE IS NULL  
AND PURCHASE_AMOUNT BETWEEN 30 AND 70;
```
