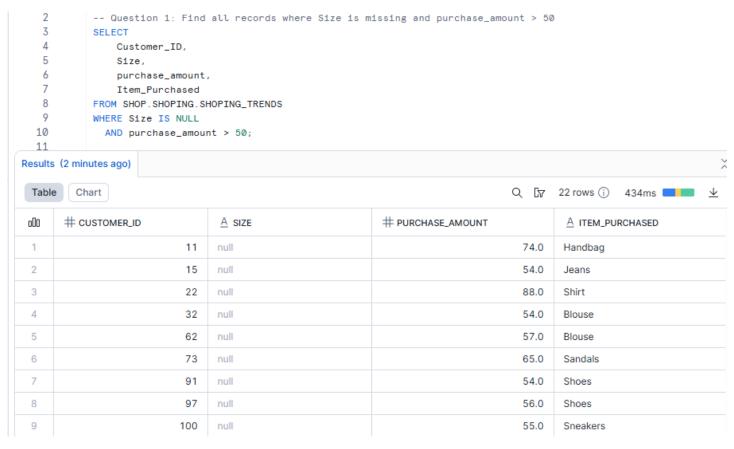
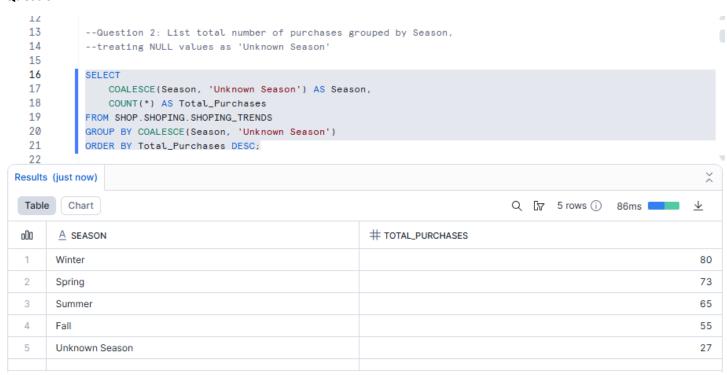
## **Belinda Thando Mhlanga**

## **Practical 3 - Advanced SQL**

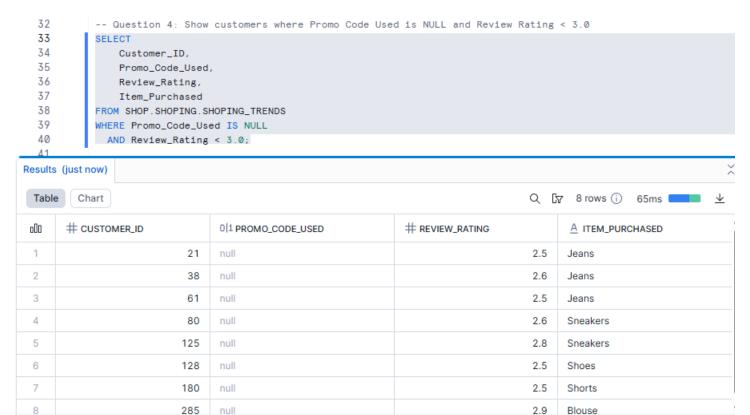
## Question 1.



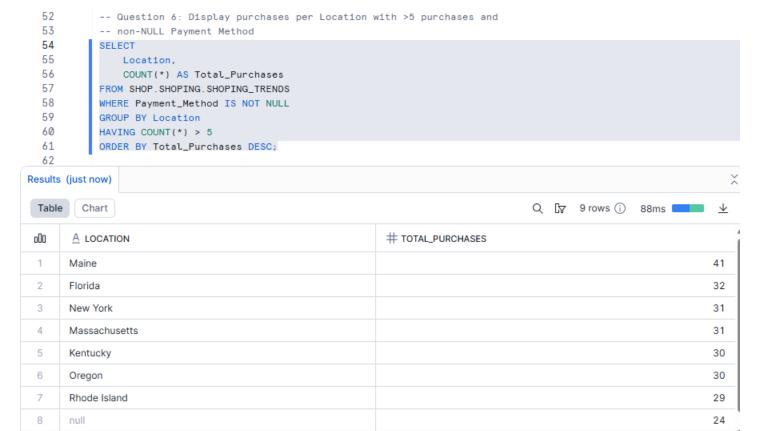
### Question 2.



```
23
           -- Question 3: Count customers by Payment Method, treating NULLs as 'Not Provided'
 24
           SELECT
 25
               COALESCE(Payment_Method, 'Not Provided') AS Payment_Method,
 26
               COUNT(DISTINCT Customer_ID) AS Customer_Count
 27
           FROM SHOP.SHOPING.SHOPING_TRENDS
 28
           GROUP BY COALESCE(Payment_Method, 'Not Provided')
 29
           ORDER BY Customer_Count DESC;
 30
esults (just now)
                                                                                         Q [7 7 rows (i) 94ms
Table
        Chart
                                                                                                                           \underline{\downarrow}
o00
      A PAYMENT_METHOD
                                                                    # CUSTOMER_COUNT
      Venmo
                                                                                                                            53
2
      PayPal
                                                                                                                            51
3
      Credit Card
                                                                                                                            44
      Debit Card
4
                                                                                                                            42
5
      Cash
                                                                                                                            42
6
      Bank Transfer
                                                                                                                            38
7
      Not Provided
                                                                                                                            30
```



```
--Question 5: Group by Shipping Type, return avg purchase_amount,
  44
            --treating missing values as 0
  45
            SELECT
  46
                Shipping_Type,
  47
                AVG(COALESCE(purchase_amount, 0)) AS Average_purchase_amount
  48
            FROM SHOP.SHOPING.SHOPING_TRENDS
  49
            GROUP BY Shipping_Type
  50
            ORDER BY Average_purchase_amount DESC;
  51
Results (just now)
                                                                                         Q 🗑 7 rows (i) 91ms 💳
 Table
         Chart
       A SHIPPING_TYPE
                                                         ŧ
                                                              # AVERAGE_PURCHASE_AMOUNT
o00
                                                                                                                   55.3333333
 1
       Store Pickup
 2
      Next Day Air
                                                                                                                   54.8666667
 3
      Express
                                                                                                                   53.4545455
 4
      null
                                                                                                                   52.7037037
 5
       2-Day Shipping
                                                                                                                   51.5576923
 6
      Free Shipping
                                                                                                                   50.2142857
 7
       Standard
                                                                                                                   47.6666667
```



```
64
            --Question 7: Create Spender Category column using CASE
  65
            --High: >80, Medium: 50-80, Low: otherwise
  66
            -- Replace NULLs in purchase_amount with 0
  67
            SELECT
  68
                Customer_ID,
  69
                purchase_amount,
  70
                CASE
  71
                    WHEN COALESCE(purchase_amount, 0) > 80 THEN 'High'
  72
                    WHEN COALESCE(purchase_amount, 0) BETWEEN 50 AND 80 THEN 'Medium'
  73
                    ELSE 'Low'
  74
                END AS Spender_Category
  75
            FROM SHOP.SHOPING.SHOPING_TRENDS
  76
            ORDER BY purchase_amount DESC;
  77
Results (just now)
Table
         Chart
                                                                                     Q [7 300 rows (i)
                                                                                                                        \overline{\Psi}
                                                                                                          65ms
       # CUSTOMER_ID
                                           # PURCHASE_AMOUNT
                                                                                   A SPENDER_CATEGORY
 o0o
                                                                                                                           259
 1
                                                                             null
                                                                                   Low
 2
                                     41
                                                                             null
                                                                                   Low
 3
                                    286
                                                                             null
                                                                                   Low
 4
                                     65
                                                                             null
                                                                                   Low
                                     71
 5
                                                                             null
                                                                                   Low
 6
                                     78
                                                                             null
                                                                                   Low
```



Table Chart Q □ 36 rows ① 21ms <u>↓</u>				
000	# CUSTOMER_ID	A COLOR	# PREVIOUS_PURCHASES	Â
1	8	Green	null	
2	21	Yellow	null	
3	25	White	null	
4	37	Maroon	null	
5	40	Gray	null	
6	43	Black	null	
7	44	Green	null	•

```
89
            -- Question 9: Group by Frequency of Purchases, show total amount spent,
  90
            -- treating NULL frequencies as 'Unknown'
  91
            SELECT
  92
                COALESCE (Frequency_of_Purchases, 'Unknown') AS Frequency_of_Purchases,
                SUM(purchase_amount) AS Total_purchase_amount
  93
  94
            FROM SHOP.SHOPING.SHOPING_TRENDS
            GROUP BY COALESCE(Frequency_of_Purchases, 'Unknown')
  95
  96
            ORDER BY Total_purchase_amount DESC;
Results (just now)
 Table
        Chart
                                                                                 Q [7 8 rows (i) 106ms
                                                                                                                   \overline{\Psi}
                                                           :
o00
       A FREQUENCY_OF_PURCHASES
                                                                # TOTAL_PURCHASE_AMOUNT
 1
       Quarterly
                                                                                                              2541.0
 2
       Weekly
                                                                                                              2184.0
 3
                                                                                                              2099.0
      Bi-Weekly
 4
      Fortnightly
                                                                                                              2033.0
 5
      Monthly
                                                                                                              1780.0
                                                                                                              1765.0
 6
      Annually
 7
                                                                                                              1749.0
       Every 3 Months
      Unknown
                                                                                                              1518.0
```



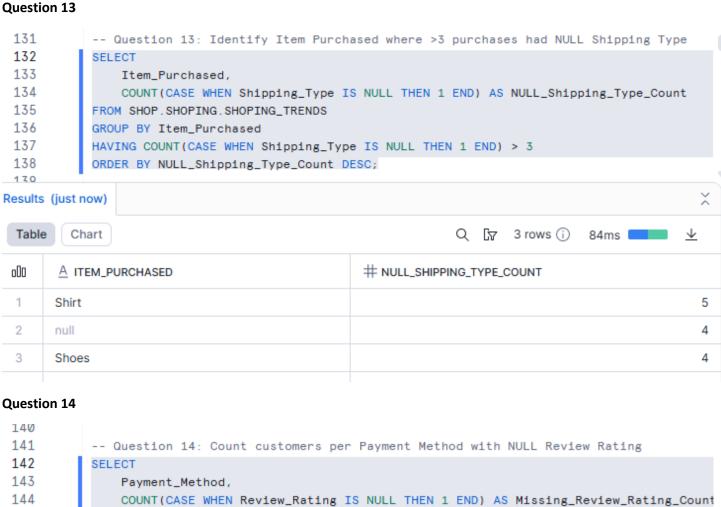


```
110
          --Question 11: Return top 5 Locations with highest total purchase_amount,
111
           --replacing NULLs in amount with 0
112
          SELECT
113
              Location,
114
              SUM(COALESCE(purchase_amount, 0)) AS Total_purchase_amount
115
          FROM SHOP.SHOPING.SHOPING_TRENDS
116
          GROUP BY Location
117
          ORDER BY Total_purchase_amount DESC
118
          LIMIT 5;
```

#### lesults (just now) Table Chart Q [7 5 rows (i) 123ms # TOTAL\_PURCHASE\_AMOUNT o00 A LOCATION 1 Maine 2294.0 2 Florida 1980.0 3 Massachusetts 1899.0 4 Rhode Island 1876.0 5 Kentucky 1798.0

121	Question 12: Group by Gender and Size, count entries with NULL Color
122	SELECT
123	Gender,
124	Size,
125	COUNT(CASE WHEN Color IS NULL THEN 1 END) AS Null_Color_Count
126	FROM SHOP.SHOPING.SHOPING_TRENDS
127	GROUP BY Gender, Size
128	HAVING COUNT(CASE WHEN Color IS NULL THEN 1 END) > 0
129	ORDER BY Null_Color_Count DESC;

Results (just now) ×				
Table	e Chart		Q [¬ 5 rows () 94ms <u>↓</u>	
000	A GENDER	A SIZE :	# NULL_COLOR_COUNT	
1	Male	М	7	
2	Male	null	6	
3	Male	L	6	
4	Male	XL	5	
5	Male	S	5	



Table

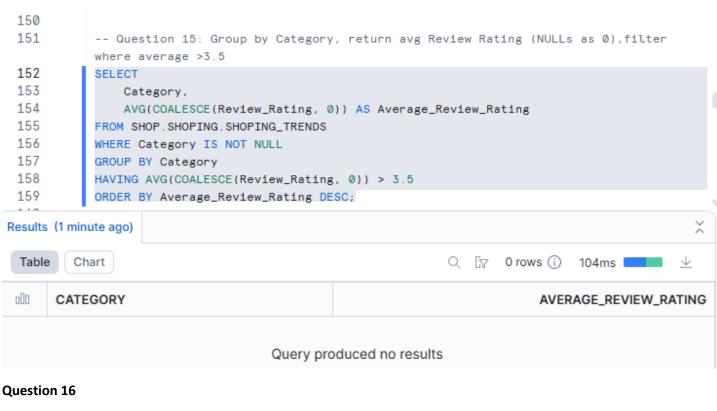
Chart

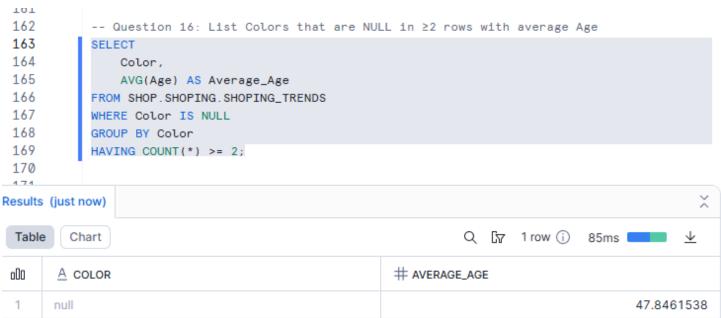
140	
141	Question 14: Count customers per Payment Method with NULL Review Rating
142	SELECT
143	Payment_Method,
144	COUNT(CASE WHEN Review_Rating IS NULL THEN 1 END) AS Missing_Review_Rating_Count
145	FROM SHOP.SHOPING.SHOPING_TRENDS
146	GROUP BY Payment_Method
147	HAVING COUNT(CASE WHEN Review_Rating IS NULL THEN 1 END) > 0
148	ORDER BY Missing_Review_Rating_Count DESC;
149	

Results (just now)

Q [7 7 rows (i) 92ms

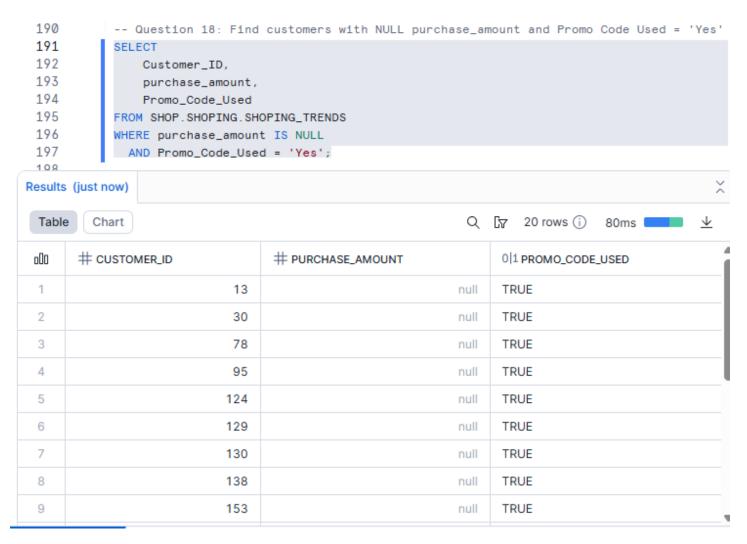
000	A PAYMENT_METHOD	# MISSING_REVIEW_RATING_COUNT
1	Venmo	9
2	Credit Card	8
3	Debit Card	7
4	Cash	4
5	Bank Transfer	4
6	PayPal	3

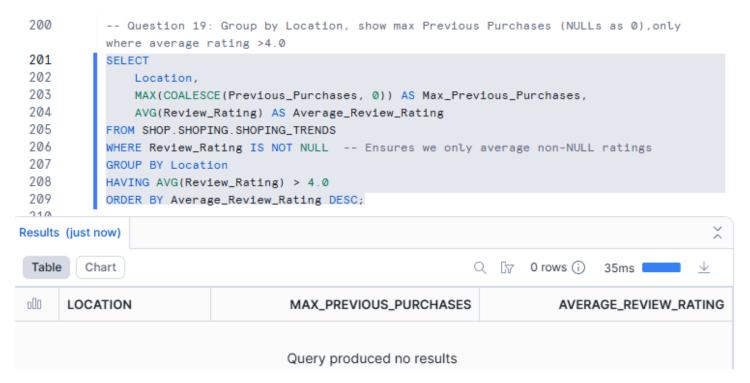




```
172
            -- Question 17: Create Delivery Speed column using CASE and count customers. Fast:
            Express/Next Day Air, Slow: Standard, Other: else/NULL
 173
            SELECT
 174
                CASE
 175
                    WHEN Shipping_Type IN ('Express', 'Next Day Air') THEN 'Fast'
 176
                    WHEN Shipping_Type = 'Standard' THEN 'Slow'
 177
                    ELSE 'Other'
 178
                END AS Delivery_Speed,
 179
                COUNT(DISTINCT Customer_ID) AS Customer_Count
 180
            FROM SHOP.SHOPING.SHOPING_TRENDS
 181
            GROUP BY
 182
                CASE
 183
                    WHEN Shipping_Type IN ('Express', 'Next Day Air') THEN 'Fast'
 184
                    WHEN Shipping_Type = 'Standard' THEN 'Slow'
 185
                    ELSE 'Other'
 186
                END
 187
            ORDER BY Customer_Count DESC;
Results (just now)
 Table
         Chart
                                                               Q [7 3 rows (i) 104ms
                                                                                                \overline{\phantom{a}}
                                                      # CUSTOMER_COUNT
 000
       A DELIVERY_SPEED
 1
       Other
                                                                                                166
 2
       Fast
                                                                                                 89
 3
       Slow
                                                                                                 45
```

**Question 18** 





211	Show customers who have a NULL Shipping		
212	Type but made a purchase in the range of 30 to 70 USD.		
213	SELECT		
214	Customer_ID,		
215	Shipping_Type,		
216	purchase_amount,		
217	Item_Purchased		
218	FROM SHOP.SHOPING.SHOPING_TRENDS		
219	WHERE Shipping_Type IS NULL		
220	AND purchase_amount BETWEEN 30 AND 70		
221	ORDER BY purchase_amount;		

# Results (just now)

Table	Table Chart Q ∏ 7 rows (i) 78ms <u>↓</u>			
000	# CUSTOMER_ID :	A SHIPPING_TYPE	# PURCHASE_AMOUNT	A ITEM_PURCHASED
1	293	null	35.0	null
2	213	null	36.0	Shirt
3	141	null	37.0	Shorts
4	235	null	38.0	Sandals
5	105	null	43.0	Shirt
6	15	null	54.0	Jeans
7	196	null	66.0	Coat