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Assessment: Practical 2.1

Q1:

```
7  ---Records where Size is NULL and Purchase amount is >50
8  SELECT Customer_ID,Size,PURCHASE_AMOUNT, Item_purchased
9  FROM SHOPPINGTRENDS
10 WHERE SIZE IS NULL AND purchase_amount > 50;
11
```

Results Chart

	# CUSTOMER_ID	SIZE	# PURCHASE_AMOUNT	ITEM_PURCHASED
1	11	null	74.0	Handbag
2	15	null	54.0	Jeans
3	22	null	88.0	Shirt
4	32	null	54.0	Blouse
5	62	null	57.0	Blouse
6	73	null	65.0	Sandals
7	91	null	54.0	Shoes
8	97	null	56.0	Shoes
9	100	null	55.0	Sneakers
10	160	null	84.0	Coat

Q2:

```
12 ---Total purchases by SEASON (NULLs as 'Unknown Season')
13 SELECT
14     COALESCE (SEASON, 'UNKNOWN SEASON') AS SEASON,
15     COUNT(*) TOTAL_PURCHASES
16 FROM SHOPPINGTRENDS
17 GROUP BY COALESCE (SEASON,'UNKNOWN SEASON');
18
19 ---Count of customers per Payment Method (NULLs as 'Not Provided')
```

Results Chart

	SEASON	# TOTAL_PURCHASES
1	Winter	80
2	Spring	73
3	UNKNOWN SEASON	27
4	Summer	65
5	Fall	55

Q3:

```
19 ---Count of customers per Payment Method (NULLs as 'Not Provided')
20 SELECT
21     COALESCE (PAYMENT_METHOD, 'Not Provided') AS PAYMENT_METHOD,
22     COUNT(DISTINCT CUSTOMER_ID) AS CUSTOMER_COUNT
23 FROM SHOPPINGTRENDS
24 GROUP BY COALESCE (PAYMENT_METHOD, 'Not Provided');
25
26 ---Customers with NULL Promo Code Used and Review Rating <3.0
```

Results Chart

	PAYMENT_METHOD	# CUSTOMER_COUNT
1	PayPal	51
2	Debit Card	42
3	Not Provided	30
4	Bank Transfer	38
5	Venmo	53
6	Credit Card	44
7	Cash	42

Q4:

```
26 ---Customers with NULL Promo Code Used and Review Rating < 3.0
27 SELECT CUSTOMER_ID,PROMO_CODE_USED,REVIEW_RATING,ITEM_PURCHASED
28 FROM SHOPPINGTRENDS
29 WHERE PROMO_CODE_USED IS NULL AND REVIEW_RATING < 3.0;
30
31 ---AVG purchases_amount bby Shipping Type (NULLs as 0)
```

Results

Chart

	#	CUSTOMER_ID	PROMO_CODE_USED	REVIEW_RATING	ITEM_PURCHASED
1	21	null	2.5	Jeans	
2	38	null	2.6	Jeans	
3	61	null	2.5	Jeans	
4	80	null	2.6	Sneakers	
5	125	null	2.8	Sneakers	
6	128	null	2.5	Shoes	
7	180	null	2.5	Shorts	
8	285	null	2.9	Blouse	

Q5:

```
31 ---AVG purchases_amount bby Shipping Type (NULLs as 0)
32
33 SELECT Shipping_type,
34        AVG(IFNULL(purchase_amount,0)) AS Average_purchase_amount
35 FROM shoppingtrends
36 GROUP BY SHIPPING_TYPE;
37
38 ---Purchases per Location (>5 purchases, no NULL Payment Method)
```

Results
Chart

	#	CUSTOMER_ID	PROMO_CODE_USED	REVIEW_RATING	ITEM_PURCHASED
1	21	null		2.5	Jeans
2	38	null		2.6	Jeans
3	61	null		2.5	Jeans
4	80	null		2.6	Sneakers
5	125	null		2.8	Sneakers
6	128	null		2.5	Shoes
7	180	null		2.5	Shorts
8	285	null		2.9	Blouse

Q6:

```
38 ---Purchases per Location (>5 purchases, no NULL Payment Method)
39 SELECT Location, COUNT(*) AS Total_Purchases
40 FROM SHOPPINGTRENDS
41 WHERE PAYMENT_METHOD IS NOT NULL
42 GROUP BY LOCATION
43 HAVING COUNT(*) >5;
44
```

	LOCATION	TOTAL_PURCHASES
1	Maine	41
2	Rhode Island	29
3	null	24
4	Florida	32
5	Kentucky	30
6	New York	31
7	Massachusetts	31
8	Texas	22
9	Oregon	30

```

45 ---Spender Category with CASE (replace NULL purchase_amount with 0)
46 SELECT Customer_ID,
47        IFNULL(purchase_amount,0) AS purchase_amount,
48        CASE
49          WHEN IFNULL(PURCHASE_AMOUNT,0) > 80 THEN 'HIGH'
50          WHEN IFNULL (PURCHASE_AMOUNT,0) BETWEEN 50 AND 80 THEN 'MEDIUM'
51          ELSE 'LOW'
52        END AS Spender_Category
53 FROM SHOPPINGTRENDS;
54

```

#	CUSTOMER_ID	PURCHASE_AMOUNT	SPENDER_CATEGORY
1	1	20.0	LOW
2	2	21.0	LOW
3	3	27.0	LOW
4	4	45.0	LOW
5	5	80.0	MEDIUM
6	6	82.0	HIGH
7	7	50.0	MEDIUM
8	8	29.0	LOW
9	9	100.0	HIGH
10	10	97.0	HIGH

Q7:

```

55 ---Customers with NULL Previous Purchases and non-NULL Color
56 SELECT Customer_ID, Color, Previous_Purchases
57 FROM shoppingtrends
58 WHERE PREVIOUS_PURCHASES IS NULL AND COLOR IS NOT NULL;
59
60 ---Total amount spent per Frequency of Purchases (NULLs as 'Unknown')

```

#	CUSTOMER_ID	COLOR	PREVIOUS_PURCHASES
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
8	70	White	null
9	73	Maroon	null
10	75	Pink	null

Q8:

```

61 ---Total amount spent per Frequency of Purchases (NULLs as 'Unknown')
62 SELECT
63        IFNULL(FREQUENCY_OF_PURCHASES, 'Unknown') AS FREQUENCY_OF_PURCHASES,
64        SUM(IFNULL (PURCHASE_AMOUNT,0)) AS Total_purchase_amount
65 FROM SHOPPINGTRENDS
66 GROUP BY IFNULL (FREQUENCY_OF_PURCHASES, 'Unknown');

```

#	FREQUENCY_OF_PURCHASES	TOTAL_PURCHASE_AMOUNT
1	Every 3 Months	1749.0
2	Weekly	2184.0
3	Bi-Weekly	2099.0
4	Monthly	1780.0
5	Annually	1765.0
6	Unknown	1518.0
7	Quarterly	2541.0
8	Fortnightly	2033.0

Q9:

```

67 ---Purchase count per Category (exclude NULLs)
68 SELECT Category, COUNT(*)AS Total_purchases
69 FROM SHOPPINGTRENDS
70 WHERE CATEGORY IS NOT NULL
71 GROUP BY Category;
72

```

#	CATEGORY	TOTAL_PURCHASES
1	Footwear	70
2	Outerwear	60
3	Clothing	59
4	Accessories	78

Q10:

Q11:

```
73 ---Top 5 Locations by total purchase_amount(NULLs as 0)
74 SELECT Location,
75        SUM(IFNULL(purchase_amount,0)) AS Total_purchase_amount
76 FROM shoppingtrends
77 GROUP BY Location
78 ORDER BY Total_purchase_amount DESC
79 LIMIT 5;
```

	LOCATION	# TOTAL_PURCHASE_AMOUNT
1	Maine	2294.0
2	Florida	1980.0
3	Massachusetts	1899.0
4	Rhode Island	1876.0
5	Kentucky	1798.0

Q12:

```
81 ---Count of NULL Color by Gender and Size
82 SELECT Gender, Size, COUNT(*) AS Null_Color_Count
83 FROM SHOPPINGTRENDS
84 WHERE Color IS NOT NULL
85 GROUP BY Gender, Size;
86
87 ---Items with >5 purchases having NULL Shipping Type
```

	GENDER	SIZE	# NULL_COLOR_COUNT
1	Male	XL	71
2	Male	L	54
3	Male	S	55
4	Male	M	62
5	Male	null	29

Q13:

```
87 ---Items with >3 purchases having NULL Shipping Type
88 SELECT item_purchased, COUNT(*) AS NULL_Shipping_Type_Count
89 FROM SHOPPINGTRENDS
90 WHERE SHIPPING_TYPE IS NULL
91 GROUP BY ITEM_PURCHASED
92 HAVING COUNT(*) > 3;
93
```

	ITEM_PURCHASED	# NULL_SHIPPING_TYPE_COUNT
1	null	4
2	Shoes	4
3	Shirt	5

Q14:

```
94 ---Count of NULL Review Rating by Payment Method
95 SELECT Payment_Method, COUNT(*) AS Missing_Review_Rating_Count
96 FROM SHOPPINGTRENDS
97 WHERE REVIEW_RATING IS NULL
98 GROUP BY PAYMENT_METHOD;
99
100 ---AVG Review Rating by Category (NULLs as 0, avg > 3.5)
```

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

```

100  --AVG Review Rating by Category (NULLs as 0, avg > 3.5)
101  SELECT Category, AVG(IFNULL(Review_Rating,0)) AS Average_Review_Rating
102  FROM SHOPPINGTRENDS
103  GROUP BY CATEGORY
104  HAVING AVG(IFNULL(Review_Rating,0)) >3.5;
105

```

Results Chart

CATEGORY	AVERAGE_REVIEW_RATING
Query produced no results	

Q15:

```

106  --NULL Colors with at least 2 rows and avg age
107  SELECT Color, AVG(AGE) AS Average_Age
108  FROM SHOPPINGTRENDS
109  WHERE COLOR IS NULL
110  GROUP BY COLOR
111  HAVING COUNT(*) >=2;

```

Results Chart

	COLOR	AVERAGE_AGE
1	null	47.8461538

Q16:

```

113  --Delivery Speed CASE and Count
114  SELECT
115  CASE
116  WHEN Shipping_Type IN ('Express', 'Next Day Air') THEN 'Fast'
117  WHEN Shipping_Type = 'Standard' THEN 'Slow'
118  ELSE 'Other'
119  END AS Delivery_Speed, COUNT(DISTINCT Customer_ID) AS Customer_Count
120  FROM SHOPPINGTRENDS
121  GROUP BY
122  CASE
123  WHEN SHIPPING_TYPE IN ('Express', 'Next Day Air') THEN 'Fast'
124  WHEN SHIPPING_TYPE = 'Standard' THEN 'Slow'
125  ELSE 'Other'
126  END;
127

```

Results Chart

	DELIVERY_SPEED	CUSTOMER_COUNT
1	Slow	45
2	Other	166
3	Fast	89

Q17:

```

128  --Customers with NULL purchase_amount and Promo Code Used = 'Yes'
129  SELECT Customer_ID, purchase_amount, Promo_Code_Used
130  FROM SHOPPINGTRENDS
131  WHERE purchase_amount IS NULL AND PROMO_CODE_USED = 'Yes';

```

Results Chart

	CUSTOMER_ID	PURCHASE_AMOUNT	PROMO_CODE_USED
1	13	null	TRUE
2	30	null	TRUE
3	78	null	TRUE
4	95	null	TRUE
5	124	null	TRUE
6	129	null	TRUE
7	130	null	TRUE
8	138	null	TRUE
9	153	null	TRUE

Q18:

```
133 ---Max Previous Purchases and avg rating by Location(NULLS as 0, avg>4.0)
134 SELECT location, MAX(IFNULL(Previous_purchases,0)) AS Max_Previous_Purchases, AVG(Review_Rating) AS Average_Review_Rating
135 FROM shoppingtrends
136 GROUP BY LOCATION
137 HAVING AVG(review_rating)>4.0;
138
139 ---Customers with NULL Shipping Type and Purchase between 30-70
```

Results Chart

LOCATION	MAX_PREVIOUS_PURCHASES	AVERAGE_REVIEW_RATING
Query produced no results		

Query Details

Query duration 34ms

Rows 0

Query ID 01bc548b-0000-9673-...

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Q19:

```
139 ---Customers with NULL Shipping Type and Purchase between 30-70
140 SELECT Customer_ID, Shipping_Type, purchase_amount, ITEM_PURCHASED
141 FROM SHOPPINGTRENDS
142 WHERE SHIPPING_TYPE IS NULL AND purchase_amount BETWEEN 30 AND 70;
```

Results Chart

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

Q20: