

PRACTICAL EXERCISE 3

ON SQL SERVER MANAGEMENT STUDIO(SSMS)

Q1. Find all records where Size is missing and the purchase_amount is greater than 50.

The screenshot shows the SQL Server Management Studio interface with two query panes. The top pane contains the following SQL code:

```
-- Question 1: Find all records where Size is missing and the purchase_amount is greater than 50
select Customer_ID, Size,
       purchase_amount, Item_Purchased
From [Practical_3].[dbo].[shoping_trends]
where Size is null and
      purchase_amount > 50;
```

The bottom pane displays the results of the query:

	Customer_ID	Size	purchase_amount	Item_Purchased
1	11	NULL	74	Handbag
2	15	NULL	54	Jeans
3	22	NULL	88	Shirt
4	32	NULL	54	Blouse
5	62	NULL	57	Blouse
6	73	NULL	65	Sandals
7	91	NULL	54	Shoes

Q2. List the total number of purchases grouped by Season, treating NULL values as 'Unknown Season'.

The screenshot shows the SQL Server Management Studio interface with two query panes. The top pane contains the following SQL code:

```
--Question 2:List the total number of purchases grouped by Season, treating NULL values as 'Unknown Season'.
Select sum(purchase_amount) as Total_Purchased
  ,
  case
    when Season is null then 'unknown_season'
    when season = '-' then 'unknown_season'
    else season
    end as season
From [Practical_3].[dbo].[shoping_trends]
group by Season;
```

The bottom pane displays the results of the query:

	Total_Purchased	season
1	1376	unknown_season
2	2570	Fall
3	3887	Spring
4	3861	Summer
5	3975	Winter

Q3. Count how many customers used each Payment Method, treating NULLs as 'Not Provided'.

The screenshot shows a SQL Server Management Studio window with two tabs open: 'SQLQuery3.s...-peter (55)*' and 'SQLQuery2.s...ot connected'. The current tab, 'SQLQuery3.s...-peter (55)*', contains a T-SQL query:

```
41  
42  
43  
44 --Question 3:Count how many customers used each Payment Method, treating NULLs as 'Not Provided'.  
45  
46 select  
47     count(Customer_ID) as customer_count  
48  
49     case  
50         when Payment_Method is null then 'Not_provided'  
51         when Payment_Method = '-' then 'not_provided'  
52         else Payment_Method  
53     end as payment_Method  
54  
55 From [Practical_3].[dbo].[shoping_trends]  
56  
57 group by Payment_Method;  
58  
59  
60
```

The results pane shows the following data:

	customer_count	payment_Method
1	30	Not_provided
2	38	Bank Transfer
3	42	Cash
4	44	Credit Card
5	42	Debit Card
6	51	PayPal
7	53	Venmo

At the bottom, a green checkmark indicates 'Query executed successfully.'

Q4 .Show customers where Promo Code Used is NULL and Review Rating is below 3.0.

File Edit View Query Git Project Tools Extensions Window Help Q Search

master Execute SQLQueryLog... SQLQuery2.s...ot connected

SQLQuery3.s...-peter (55)*

```
--Question 4: Show customers where Promo Code Used is NULL and Review Rating is below 3.0.  
select customer_id, Promo_Code_Used,  
Item_Purchased,  
Round(Review_Rating, 2) AS Review_Rating  
From [Practical_3].[dbo].[shopping_trends]  
where Promo_Code_Used is null  
AND Review_Rating < 3.0;
```

No issues found.

Results Messages

	customer_id	Promo_Code_Used	Item_Purchased	Review_Rating
1	21	NULL	Jeans	2.5
2	38	NULL	Jeans	2.6
3	61	NULL	Jeans	2.5
4	80	NULL	Sneakers	2.6
5	125	NULL	Sneakers	2.8
6	128	NULL	Shoes	2.5
7	180	NULL	Shorts	2.5

Query executed successfully.

LAPTOP-52H3VMH0 (16.0 RTM) LAPTOP-52H3VMH0\njabul... master 00:00:00 Row: 1, Col: 1 8 rows

Q5. Group customers by Shipping Type, and return the average purchase_amount, treating missing values as 0.

The screenshot shows the SQL Server Management Studio interface with two tabs open: 'SQLQuery3.s...-peter (55)*' and 'SQLQuery2.s...-ot connected'. The code in the first tab is:

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```

Q7.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.

The screenshot shows a SQL Server Management Studio window with two tabs open: 'SQLQuery3.s...-peter (55)*' and 'SQLQuery2.s...-of connected*'. The code in the editor is as follows:

```
117  
118  
119  
120 --Question 7:Create a column Spender Category that classifies customers using CASE:  
121 --'High' if amount > 80, 'Medium' if BETWEEN 50 AND 80,  
122 --'Low' otherwise. Replace NULLs in purchase_amount with 0.  
123  
124  
125 Select count(Customer_ID) as customer_count  
126 ,Coalesce(purchase_amount, 0) as [purchase_amount]  
127  
128 case  
129     when Coalesce(purchase_amount, 0) > 80 then 'high'  
130     when Coalesce(purchase_amount, 0) between 50 and 80 then 'medium'  
131     else 'low'  
132 end as Spender_category  
133  
134 From [Practical_3].[dbo].[shoping_trends]  
135 group by Coalesce(purchase_amount, 0);  
136
```

Below the code, a message says "No issues found". The status bar at the bottom right indicates "Ln: 135, Ch: 39 SPC : CRLF : Windows 1252".

Q8. Find customers who have no Previous Purchases value but whose Color is not NULL.

The screenshot shows the SSMS interface with two query windows open:

- SQLQuery3.s...-peter (55)***: Contains the following T-SQL code:

```
136  
137  
138  
139  
140  
141    --Question #8:Find customers who have no Previous Purchases value but whose Color is not NULL.  
142  
143    select customer_id,  
144        previous_purchases,  
145        Color  
146        |  
147    From [Practical_3].[dbo].[shoping_trends]  
148  
149    where  
150        (Previous_Purchases = 0 OR Previous_Purchases IS NULL)  
151        AND Color IS NOT NULL;  
152  
153  
154  
155
```

- SQLQuery2.s...ot connected*** and **SQLQuery1.s...ot connected*** are also visible.

The results grid below shows the output of the query:

	customer_id	previous_purchases	Color
1	8	NULL	Green
2	21	NULL	Yellow
3	25	NULL	White
4	37	NULL	Maroon
5	40	NULL	Gray
6	43	NULL	Black
7	44	NULL	Green

At the bottom, a green checkmark indicates "Query executed successfully." and the status bar shows "LAPTOP-52H3VMH0 (16.0 RTM) LAPTOP-52H3VMH0\rajabul... master 00:00:00 Row: 1, Col: 1 36 rows".

Q9. Group records by Frequency of Purchases and show the total amount spent per group, treating NULL frequencies as 'Unknown'.

The screenshot shows the SQL Server Management Studio interface. The query window contains the following T-SQL code:

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Q11 .Return the top 5 Locations with the highest total purchase_amount, replacing NULLs in amount with 0.

The screenshot shows the SQL Server Management Studio interface. A query window titled "SQLQuery3...-peter (55)*" is open, displaying the following SQL code:

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--Question 11: Return the top 5 Locations with the highest total purchase_amount, replacing NULLs in amount with 0.  
select top(5)[Location],  
       coalesce(sum(purchase_amount),0) as [Total_purchase_amount]  
from [Practical_3].[dbo].[shaping_trends]  
group by [location]  
order by coalesce(sum(purchase_amount),0) desc;
```

The results pane shows a table with the following data:

Location	Total_purchase_amount
Maine	2294
Florida	1980
Massachusetts	1899
Rhode Island	1876
Kentucky	1798

A status bar at the bottom indicates "Query executed successfully." and provides connection information.

Q12.Group customers by Gender and Size, and count how many entries have a NULL Color

The screenshot shows the SQL Server Management Studio interface. A query window titled "SQLQuery3...-peter (55)*" is open, displaying the following SQL code:

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--Question 12: Group customers by Gender and Size, and count how many entries have a NULL Color.  
select Gender,  
       Coalesce([size], 'Unknown') as [size],  
       count(*) as null_color_count  
  From [Practical_3].[dbo].[shaping_trends]  
 where color is null  
 group by Gender,[size];
```

The results pane shows a table with the following data:

Gender	size	null_color_count
Male	Unknown	6
Male	L	8
Male	M	7
Male	S	5
Male	XL	5

A status bar at the bottom indicates "Query executed successfully." and provides connection information.

Q13. Identify all Item Purchased where more than 3 purchases had NULL Shipping Type.

The screenshot shows a SQL Server Management Studio window with the following details:

- Query Editor:** The query is executed against the master database.
- Query Text:**

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```

Q15. Group by Category and return the average Review Rating, replacing NULLs with 0, and filter only where average is greater than 3.5.

The screenshot shows the SQL Server Management Studio interface. The query window contains the following code:

```
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—Question 15: Group by Category and return the average Review Rating, replacing NULLs with 0, and filter only where average is greater than 3.5.  
select coalesce(Category, 'Unknown') as [category],  
       coalesce(round(avg(Review_Rating), 0), 0)  
          as average_rating  
  From [Practical_3].[dbo].[shoping_trends]  
 group by coalesce(Category, 'Unknown')  
 having coalesce(round(avg(Review_Rating), 0), 0) > 3.5;
```

The results pane displays the following table:

category	average_rating
Accessories	4
Footwear	4
Outerwear	4
Unknown	4

A message bar at the bottom indicates "Query executed successfully."

Q16. List all Colors that are missing (NULL) in at least 2 rows and the average Age of customers for those rows.

The screenshot shows the SQL Server Management Studio interface. The query window contains the following code:

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—Question 16: List all Colors that are missing (NULL) in at least 2 rows and the average Age of customers for those rows.  
SELECT Color,  
       round(Avg(Age), 0) as Average_Age  
  From [Practical_3].[dbo].[shoping_trends]  
 group by color  
 having color is null  
 AND COUNT(*) >= 2;
```

The results pane displays the following table:

Color	Average_Age
NULL	48

A message bar at the bottom indicates "Query executed successfully."

Q17. 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.

Q18. Find customers whose purchase_amount is NULL and whose Promo Code Used is 'Yes'.

The screenshot shows the SSMS interface with two query windows open:

- SQLQuery3.s... peter (55)***: Contains the following T-SQL code:

```
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335    --Question 18: Find customers whose purchase_amount is NULL and whose Discount_Applied is 'Yes'.  
336  
337    select Customer_ID, purchase_amount  
338        ,Discount_Applied  
339        From [Practical_3].[dbo].[shopping_trends]  
340        where purchase_amount is null  
341        and Discount_Applied = 'yes';  
342  
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```

- SQLQuery2.s... ot connected***: Shows the results of the query:

Customer_ID	purchase_amount	Discount_Applied
1	13	NULL
2	21	NULL
3	23	NULL
4	25	NULL
5	30	NULL
6	41	NULL
7	65	NULL

At the bottom, a message indicates the query was executed successfully.

Q19. Group by Location and show the maximum Previous Purchases, replacing NULLs with 0, only where the average rating is above 4.0.

The screenshot shows the SQL Server Management Studio interface. The query window contains the following code:

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