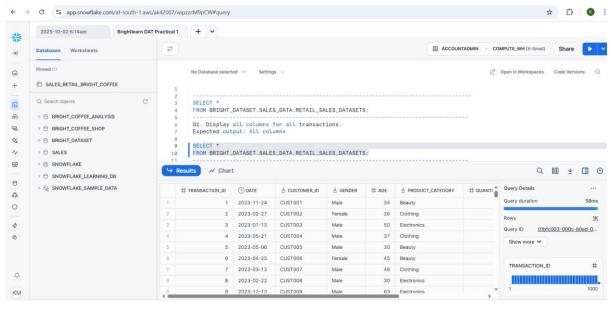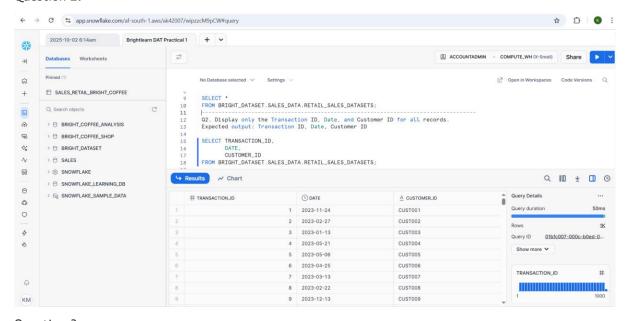**Karabo Mohlahlo**

BrightLight Data Analytics Coding Practical
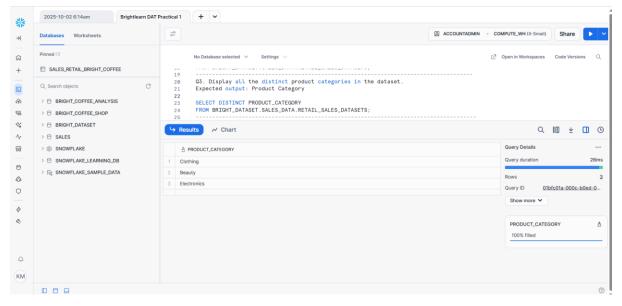
Practical 1: SQL Fundamentals (Snowflake-Basic SQL Syntax)
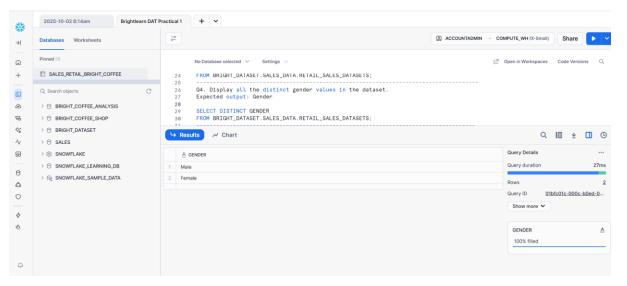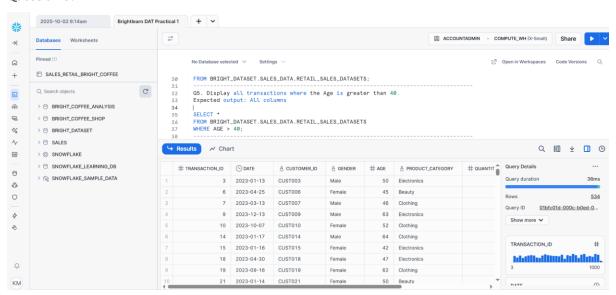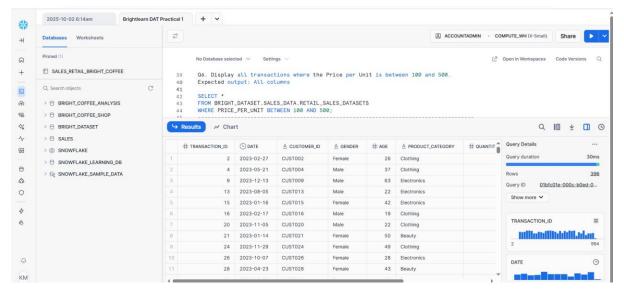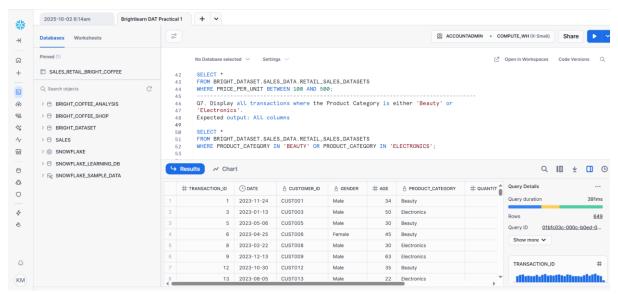
Question 1:

Question 2:

Question 3:

Question 4:

Question 5:

Question 6:

Question 7:

Question 8:

Question 9:

Databases Worksheets

ACCOUNTADMIN • COMPUTE_WH (X-Small) Share

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

No Database selected Settings Open in Workspaces Code Versions

```
60  -----------------------------------------------------------
61  Q9. Display all transactions where the Quantity is greater than or equal to 3.
62  Expected output: All columns
63  -----------------------------------------------------------
64  SELECT *
65  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
66  WHERE QUANTITY >= 3;
67
```

Results Chart

	# TRANSACTION_ID	DATE	A CUSTOMER_ID	A GENDER	# AGE	A PRODUCT_CATEGORY	# QUANTIT
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	
5	13	2023-08-05	CUST013	Male	22	Electronics	
6	14	2023-01-17	CUST014	Male	64	Clothing	
7	15	2023-01-16	CUST015	Female	42	Electronics	
8	16	2023-02-17	CUST016	Male	19	Clothing	
9	17	2023-04-22	CUST017	Female	27	Clothing	
10	20	2023-11-05	CUST020	Male	22	Clothing	
11	23	2023-04-12	CUST023	Female	35	Clothing	

Query Details

Query duration 34ms

Rows 504

Query ID 01bfc029-000c-b0ed-0...

Show more

TRANSACTION_ID #
1 1000

DATE

Question 10:

Databases Worksheets

ACCOUNTADMIN • COMPUTE_WH (X-Small) Share

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

No Database selected Settings Open in Workspaces Code Versions

```
65  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
66  WHERE QUANTITY >= 3;
67  -----------------------------------------------------------
68  Q10. Count the total number of transactions.
69  Expected output: Total_Transactions
70
71  SELECT COUNT (*) AS TOTAL_TRANSACTIONS
72  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
73
```

Results Chart

	# TOTAL_TRANSACTIONS
1	1000

Query Details

Query duration 32ms

Rows 1

Query ID 01bfc02a-000c-b0ed-0...

Show more

TOTAL_TRANSACTIONS #
100% filled

Question 11:

Databases Worksheets

ACCOUNTADMIN • COMPUTE_WH (X-Small) Share

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

No Database selected Settings Open in Workspaces Code Versions

```
71  SELECT COUNT (*) AS TOTAL_TRANSACTIONS
72  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
73  -----------------------------------------------------------
74  Q11. Find the average Age of customers.
75  Expected output: Average_Age
76
77  SELECT AVG(AGE),2 AS AVERAGE_AGE
78  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
79
```

Results Chart

	# AVG(AGE)	# AVERAGE_AGE
1	41.392000	2

Query Details

Query duration 524ms

Rows 1

Query ID 01bfc02b-000c-b0ed-0...

Show more

AVG(AGE) #
100% filled

AVERAGE_AGE #

Question 12:

The worksheet shows:

```
77    SELECT AVG(AGE),2 AS AVERAGE_AGE
78    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
79    --------------------------------------------------------
80    Q12. Find the total quantity of products sold.
81    Expected output: Total_Quantity
82
83    SELECT SUM(QUANTITY) AS TOTAL_QUANTITY
84    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
85    --------------------------------------------------------
86    Q13. Find the maximum Total Amount spent in a single transaction.
```

Results:

TOTAL_QUANTITY
2514

Query Details — Query duration 26ms, Rows 1, Query ID 01bfc02c-000c-b0ed-0...

TOTAL_QUANTITY — 100% filled

Question 13:

The worksheet shows:

```
83    SELECT SUM(QUANTITY) AS TOTAL_QUANTITY
84    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
85    --------------------------------------------------------
86    Q13. Find the maximum Total Amount spent in a single transaction.
87    Expected output: Max_Total_Amount
88
89    SELECT MAX(TOTAL_AMOUNT) AS MAX_TOTAL_AMOUNT
90    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
91    --------------------------------------------------------
```

Results:

MAX_TOTAL_AMOUNT
2000

Query Details — Query duration 36ms, Rows 1, Query ID 01bfc02d-000c-b0ed-0...

MAX_TOTAL_AMOUNT — 100% filled

Question 14:

Q14. Find the minimum Price per Unit in the dataset.
Expected output: Min_Price_per_Unit

```sql
SELECT MIN(PRICE_PER_UNIT) AS MIN_PRICE_PER_UNIT
FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
```

	# MIN_PRICE_PER_UNIT
1	25

Question 15:

Q15. Find the number of transactions per Product Category.
Expected output: Product Category, Transaction_Count

```sql
SELECT PRODUCT_CATEGORY,
       COUNT (*) TRANSACTION_COUNT
FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
GROUP BY PRODUCT_CATEGORY;
```

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

Question 16:

Q16. Find the total revenue (Total Amount) per gender.
Expected output: Gender, Total_Revenue

```sql
SELECT GENDER,
SUM(TOTAL_AMOUNT) AS TOTAL_REVENUE
FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
GROUP BY GENDER;
```

	A GENDER	# TOTAL_REVENUE
1	Male	223160
2	Female	232840

Question 17:

Databases   Worksheets

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

ACCOUNTADMIN • COMPUTE_WH (X-Small)   Share

No Database selected   Settings   Open in Workspaces   Code Versions

```
111  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
112  GROUP BY GENDER;
113  ------------------------------------------------------
114  Q17. Find the average Price per Unit per product category.
115  Expected output: Product Category, Average_Price
116
117  SELECT PRODUCT_CATEGORY,AVG(PRICE_PER_UNIT),3 AS AVERAGE_PRICE
118  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
119  GROUP BY PRODUCT_CATEGORY;
120  ------------------------------------------------------
```

Results   Chart

	A PRODUCT_CATEGORY	# AVG(PRICE_PER_UNIT)	# AVERAGE_PRICE
1	Beauty	184.055375	3
2	Clothing	174.287749	3
3	Electronics	181.900585	3

Query Details

Query duration   31ms

Rows   3

Query ID   01bfc030-000c-b0ed-0...

Show more

PRODUCT_CATEGORY   A
100% filled

AVG(PRICE PER UNIT)

Question 18:

Databases   Worksheets

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

ACCOUNTADMIN • COMPUTE_WH (X-Small)   Share

No Database selected   Settings   Open in Workspaces   Code Versions

```
117  SELECT PRODUCT_CATEGORY,AVG(PRICE_PER_UNIT),3 AS AVERAGE_PRICE
118  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
119  GROUP BY PRODUCT_CATEGORY;
120
121  Q18. Find the total revenue per product category where total revenue is greater than
122  10,000.
123  Expected output: Product Category, Total_Revenue
124
125  SELECT PRODUCT_CATEGORY,
126  SUM(TOTAL_AMOUNT) AS TOTAL_REVENUE
127  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
128  GROUP BY PRODUCT_CATEGORY
129  HAVING SUM(TOTAL_AMOUNT)>10000;
130  ------------------------------------------------------
```

Results   Chart

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

Query Details

Query duration   35ms

Rows   3

Query ID   01bfc031-000c-b0ed-0...

Show more

PRODUCT_CATEGORY   A

Question 19:

Databases   Worksheets

Pinned (1)

SALES_RETAIL_BRIGHT_COFFEE

Search objects

> BRIGHT_COFFEE_ANALYSIS
> BRIGHT_COFFEE_SHOP
> BRIGHT_DATASET
> SALES
> SNOWFLAKE
> SNOWFLAKE_LEARNING_DB
> SNOWFLAKE_SAMPLE_DATA

ACCOUNTADMIN • COMPUTE_WH (X-Small)   Share

No Database selected   Settings   Open in Workspaces   Code Versions

```
128  GROUP BY PRODUCT_CATEGORY
129  HAVING SUM(TOTAL_AMOUNT)>10000;
130  ------------------------------------------------------
131  Q19. Find the average quantity per product category where the average is more than 2.
132  Expected output: Product Category, Average_Quantity
133
134  SELECT PRODUCT_CATEGORY,AVG(QUANTITY),3 AS AVERAGE_QUANTITY
135  FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS
136  GROUP BY PRODUCT_CATEGORY
137  HAVING AVG(QUANTITY)>2;
138
```

Results   Chart

	A PRODUCT_CATEGORY	# AVG(QUANTITY)	# AVERAGE_QUANTITY
1	Beauty	2.511401	3
2	Clothing	2.547009	3
3	Electronics	2.482456	3

Query Details

Query duration   31ms

Rows   3

Query ID   01bfc032-000c-b0ed-0...

Show more

PRODUCT_CATEGORY   A
100% filled

Question 20:

Results | **Chart**

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

Query Details

Query duration   28ms

Rows   1K

Query ID   01bfc033-000c-b0ed-0...

Show more ⌄

Question 21:

```
149    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
150    --------------------------------------------------------------
151    Q21. Display a new column called Age_Group that labels customers as:
152    · 'Youth' if Age < 30
153    · 'Adult' if Age is between 30 and 59
154    · 'Senior' if Age >= 60
155    Expected output: Customer ID, Age, Age_Group
156
157    SELECT CUSTOMER_ID,
158          AGE,
159          CASE
160              WHEN AGE < 30 THEN 'YOUTH'
161              WHEN AGE BETWEEN 30 AND 59 THEN 'ADULT'
162              ELSE 'SENIOR'
163          END AS AGE_GROUP
164    FROM BRIGHT_DATASET.SALES_DATA.RETAIL_SALES_DATASETS;
165    --------------------------------------------------------------
```

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

Query Details

Query duration   39ms

Rows   1K

Query ID   01bfc033-000c-b0ed-0...

Show more ⌄