

Mahura Kegomoditswe:

Practical 1: SQL Fundamentals (Snowflake-Basic SQL Syntax):

1. SELECT Statement

2025-10-16 11:49am +

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

```
1 SELECT *
2 FROM
3 "RETAIL"."SALES"."RETAIL_SALES";
```

Results (2 minutes ago)

Table Chart 2,000 rows 71ms

| # | TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|----------------|------------|-------------|--------|-----|------------------|----------|----------------|--------------|
| 1 | 1 | 2023-11-24 | CUST001 | Male | 34 | Beauty | 3 | 50 | 150 |
| 2 | 2 | 2023-02-27 | CUST002 | Female | 26 | Clothing | 2 | 500 | 1000 |
| 3 | 3 | 2023-01-13 | CUST003 | Male | 50 | Electronics | 1 | 30 | 30 |
| 4 | 4 | 2023-05-21 | CUST004 | Male | 37 | Clothing | 1 | 500 | 500 |
| 5 | 5 | 2023-05-06 | CUST005 | Male | 30 | Beauty | 2 | 50 | 100 |
| 6 | 6 | 2023-04-25 | CUST006 | Female | 45 | Beauty | 1 | 30 | 30 |
| 7 | 7 | 2023-03-13 | CUST007 | Male | 46 | Clothing | 2 | 25 | 50 |
| 8 | 8 | 2023-02-22 | CUST008 | Male | 30 | Electronics | 4 | 25 | 100 |
| 9 | 9 | 2023-12-13 | CUST009 | Male | 63 | Electronics | 2 | 300 | 600 |
| 10 | 10 | 2023-10-07 | CUST010 | Female | 52 | Clothing | 4 | 50 | 200 |
| 11 | 11 | 2023-02-14 | CUST011 | Male | 23 | Clothing | 2 | 50 | 100 |
| 12 | 12 | 2023-10-30 | CUST012 | Male | 35 | Beauty | 3 | 25 | 75 |
| 13 | 13 | 2023-08-05 | CUST013 | Male | 22 | Electronics | 3 | 500 | 1500 |
| 14 | 14 | 2023-01-17 | CUST014 | Male | 64 | Clothing | 4 | 30 | 120 |

2025-10-16 11:49am +

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```
1 SELECT
2 TRANSACTION_ID , DATE , CUSTOMER_ID
3 FROM
4 "RETAIL"."SALES"."RETAIL_SALES"
```

Results (6 minutes ago)

Table Chart 2,000 rows 2.6s

| # | TRANSACTION_ID | DATE | CUSTOMER_ID |
|----|----------------|------------|-------------|
| 1 | 1 | 2023-11-24 | CUST001 |
| 2 | 2 | 2023-02-27 | CUST002 |
| 3 | 3 | 2023-01-13 | CUST003 |
| 4 | 4 | 2023-05-21 | CUST004 |
| 5 | 5 | 2023-05-06 | CUST005 |
| 6 | 6 | 2023-04-25 | CUST006 |
| 7 | 7 | 2023-03-13 | CUST007 |
| 8 | 8 | 2023-02-22 | CUST008 |
| 9 | 9 | 2023-12-13 | CUST009 |
| 10 | 10 | 2023-10-07 | CUST010 |
| 11 | 11 | 2023-02-14 | CUST011 |
| 12 | 12 | 2023-10-30 | CUST012 |
| 13 | 13 | 2023-08-05 | CUST013 |

2. SELECT DISTINCT Statement

```
2025-10-16 11:49am +
SELECT
DISTINCT PRODUCT_CATEGORY
FROM
"RETAIL"."SALES"."RETAIL_SALES"
```

Results (1 minute ago)

Table Chart 3 rows 806ms

| | PRODUCT_CATEGORY |
|---|------------------|
| 1 | Electronics |
| 2 | Clothing |
| 3 | Beauty |

```
2025-10-16 11:49am +
SELECT
DISTINCT GENDER
FROM
"RETAIL"."SALES"."RETAIL_SALES"
```

Results (1 minute ago)

Table Chart 2 rows 72ms

| | GENDER |
|---|--------|
| 1 | Male |
| 2 | Female |

3. WHERE Clause

```
2025-10-16 11:49am +
SELECT *
FROM
"RETAIL"."SALES"."RETAIL_SALES"
WHERE AGE > 40;
```

Results (7 minutes ago)

Table Chart 1,068 rows 38ms

| | # TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|------------------|------------|-------------|--------|-----|------------------|----------|----------------|--------------|
| 1 | 3 | 2023-01-13 | CUST003 | Male | 50 | Electronics | 1 | 30 | 30 |
| 2 | 6 | 2023-04-25 | CUST006 | Female | 45 | Beauty | 1 | 30 | 30 |
| 3 | 7 | 2023-03-13 | CUST007 | Male | 46 | Clothing | 2 | 25 | 50 |
| 4 | 9 | 2023-12-13 | CUST009 | Male | 63 | Electronics | 2 | 300 | 600 |
| 5 | 10 | 2023-10-07 | CUST010 | Female | 52 | Clothing | 4 | 50 | 200 |
| 6 | 14 | 2023-01-17 | CUST014 | Male | 64 | Clothing | 4 | 30 | 120 |
| 7 | 15 | 2023-01-16 | CUST015 | Female | 42 | Electronics | 4 | 500 | 2000 |
| 8 | 18 | 2023-04-30 | CUST018 | Female | 47 | Electronics | 2 | 25 | 50 |
| 9 | 19 | 2023-09-16 | CUST019 | Female | 62 | Clothing | 2 | 25 | 50 |
| 10 | 21 | 2023-01-14 | CUST021 | Female | 50 | Beauty | 1 | 500 | 500 |
| 11 | 24 | 2023-11-29 | CUST024 | Female | 49 | Clothing | 1 | 300 | 300 |
| 12 | 25 | 2023-12-26 | CUST025 | Female | 64 | Beauty | 1 | 50 | 50 |
| 13 | 28 | 2023-04-23 | CUST028 | Female | 43 | Beauty | 1 | 500 | 500 |

2025-10-16 11:49am

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1

SELECT *

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES"

4

WHERE PRICE_PER_UNIT BETWEEN 100 AND 500;

Results (1 minute ago)

Table Chart

792 rows 81ms

| | # TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|------------------|-------------------|--|----------------------------|-------|--|----------|----------------|--------------|
| | 2 | 1/1/2... 1/1/2... | CUST002 0.3% CUST004 0.3% +98 more | Female 51.8% Male 48.2% | 18 64 | Electronics 35.1% Clothing 34.3% +1 more | 1 4 | 300 500 | 300 2000 |
| 1 | 2 | 2023-02-27 | CUST002 | Female | 26 | Clothing | 2 | 500 | 1000 |
| 2 | 4 | 2023-05-21 | CUST004 | Male | 37 | Clothing | 1 | 500 | 500 |
| 3 | 9 | 2023-12-13 | CUST009 | Male | 63 | Electronics | 2 | 300 | 600 |
| 4 | 13 | 2023-08-05 | CUST013 | Male | 22 | Electronics | 3 | 500 | 1500 |
| 5 | 15 | 2023-01-16 | CUST015 | Female | 42 | Electronics | 4 | 500 | 2000 |
| 6 | 16 | 2023-02-17 | CUST016 | Male | 19 | Clothing | 3 | 500 | 1500 |
| 7 | 20 | 2023-11-05 | CUST020 | Male | 22 | Clothing | 3 | 300 | 900 |
| 8 | 21 | 2023-01-14 | CUST021 | Female | 50 | Beauty | 1 | 500 | 500 |
| 9 | 24 | 2023-11-29 | CUST024 | Female | 49 | Clothing | 1 | 300 | 300 |
| 10 | 26 | 2023-10-07 | CUST026 | Female | 28 | Electronics | 2 | 500 | 1000 |
| 11 | 28 | 2023-04-23 | CUST028 | Female | 43 | Beauty | 1 | 500 | 500 |
| 12 | 30 | 2023-10-29 | CUST030 | Female | 39 | Beauty | 3 | 300 | 900 |
| 13 | 31 | 2023-05-23 | CUST031 | Male | 44 | Electronics | 4 | 300 | 1200 |

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ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database

1

SELECT *

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES"

4

WHERE PRODUCT_CATEGORY IN ('Beauty','Electronics');

Results (just now)

Table Chart

1,298 rows 91ms

| | # TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|------------------|-------------------|--|----------------------------|-------|-----------------------------------|----------|----------------|--------------|
| | 1 | 1/1/2... 1/1/2... | CUST001 0.2% CUST003 0.2% +98 more | Female 51.8% Male 48.2% | 18 64 | Electronics 52.7% Beauty 47.3% | 1 4 | 25 500 | 25 2000 |
| 1 | 1 | 2023-11-24 | CUST001 | Male | 34 | Beauty | 3 | 50 | 150 |
| 2 | 3 | 2023-01-13 | CUST003 | Male | 50 | Electronics | 1 | 30 | 30 |
| 3 | 5 | 2023-05-06 | CUST005 | Male | 30 | Beauty | 2 | 50 | 100 |
| 4 | 6 | 2023-04-25 | CUST006 | Female | 45 | Beauty | 1 | 30 | 30 |
| 5 | 8 | 2023-02-22 | CUST008 | Male | 30 | Electronics | 4 | 25 | 100 |
| 6 | 9 | 2023-12-13 | CUST009 | Male | 63 | Electronics | 2 | 300 | 600 |
| 7 | 12 | 2023-10-30 | CUST012 | Male | 35 | Beauty | 3 | 25 | 75 |
| 8 | 13 | 2023-08-05 | CUST013 | Male | 22 | Electronics | 3 | 500 | 1500 |
| 9 | 15 | 2023-01-16 | CUST015 | Female | 42 | Electronics | 4 | 500 | 2000 |
| 10 | 18 | 2023-04-30 | CUST018 | Female | 47 | Electronics | 2 | 25 | 50 |
| 11 | 21 | 2023-01-14 | CUST021 | Female | 50 | Beauty | 1 | 500 | 500 |
| 12 | 25 | 2023-12-26 | CUST025 | Female | 64 | Beauty | 1 | 50 | 50 |
| 13 | 26 | 2023-10-07 | CUST026 | Female | 28 | Electronics | 2 | 500 | 1000 |

```

1 SELECT *
2 FROM
3 "RETAIL"."SALES"."RETAIL_SALES"
4 WHERE PRODUCT_CATEGORY <> 'Clothing';
    
```

Results (just now) 1,298 rows 1.8s

| | # TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|------------------|------------|--|----------------------------|-------|-----------------------------------|----------|----------------|--------------|
| | 1 | 1000 | CUST001 0.2% CUST003 0.2% +98 more | Female 51.8% Male 48.2% | 18 64 | Electronics 52.7% Beauty 47.3% | 1 4 | 25 500 | 25 2000 |
| 1 | 1 | 2023-11-24 | CUST001 | Male | 34 | Beauty | 3 | 50 | 150 |
| 2 | 3 | 2023-01-13 | CUST003 | Male | 50 | Electronics | 1 | 30 | 30 |
| 3 | 5 | 2023-05-06 | CUST005 | Male | 30 | Beauty | 2 | 50 | 100 |
| 4 | 6 | 2023-04-25 | CUST006 | Female | 45 | Beauty | 1 | 30 | 30 |
| 5 | 8 | 2023-02-22 | CUST008 | Male | 30 | Electronics | 4 | 25 | 100 |
| 6 | 9 | 2023-12-13 | CUST009 | Male | 63 | Electronics | 2 | 300 | 600 |
| 7 | 12 | 2023-10-30 | CUST012 | Male | 35 | Beauty | 3 | 25 | 75 |
| 8 | 13 | 2023-08-05 | CUST013 | Male | 22 | Electronics | 3 | 500 | 1500 |
| 9 | 15 | 2023-01-16 | CUST015 | Female | 42 | Electronics | 4 | 500 | 2000 |
| 10 | 18 | 2023-04-30 | CUST018 | Female | 47 | Electronics | 2 | 25 | 50 |
| 11 | 21 | 2023-01-14 | CUST021 | Female | 50 | Beauty | 1 | 500 | 500 |
| 12 | 25 | 2023-12-26 | CUST025 | Female | 64 | Beauty | 1 | 50 | 50 |
| 13 | 26 | 2023-10-07 | CUST026 | Female | 28 | Electronics | 2 | 500 | 1000 |

```

1 SELECT *
2 FROM
3 "RETAIL"."SALES"."RETAIL_SALES"
4 WHERE QUANTITY >= 3;
    
```

Results (just now) 1,008 rows 85ms

| | # TRANSACTION_ID | DATE | CUSTOMER_ID | GENDER | AGE | PRODUCT_CATEGORY | QUANTITY | PRICE_PER_UNIT | TOTAL_AMOUNT |
|----|------------------|------------|--|----------------------------|-------|--|----------|----------------|--------------|
| | 1 | 1000 | CUST001 0.2% CUST008 0.2% +98 more | Female 52.6% Male 47.4% | 18 64 | Clothing 36.3% Electronics 32.3% +1 more | 3 4 | 25 500 | 75 2000 |
| 1 | 1 | 2023-11-24 | CUST001 | Male | 34 | Beauty | 3 | 50 | 150 |
| 2 | 8 | 2023-02-22 | CUST008 | Male | 30 | Electronics | 4 | 25 | 100 |
| 3 | 10 | 2023-10-07 | CUST010 | Female | 52 | Clothing | 4 | 50 | 200 |
| 4 | 12 | 2023-10-30 | CUST012 | Male | 35 | Beauty | 3 | 25 | 75 |
| 5 | 13 | 2023-08-05 | CUST013 | Male | 22 | Electronics | 3 | 500 | 1500 |
| 6 | 14 | 2023-01-17 | CUST014 | Male | 64 | Clothing | 4 | 30 | 120 |
| 7 | 15 | 2023-01-16 | CUST015 | Female | 42 | Electronics | 4 | 500 | 2000 |
| 8 | 16 | 2023-02-17 | CUST016 | Male | 19 | Clothing | 3 | 500 | 1500 |
| 9 | 17 | 2023-04-22 | CUST017 | Female | 27 | Clothing | 4 | 25 | 100 |
| 10 | 20 | 2023-11-05 | CUST020 | Male | 22 | Clothing | 3 | 300 | 900 |
| 11 | 23 | 2023-04-12 | CUST023 | Female | 35 | Clothing | 4 | 30 | 120 |
| 12 | 30 | 2023-10-29 | CUST030 | Female | 39 | Beauty | 3 | 300 | 900 |
| 13 | 31 | 2023-05-23 | CUST031 | Male | 44 | Electronics | 4 | 300 | 1200 |

4. Aggregate Functions

2025-10-16 11:49am

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ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

1

SELECT COUNT(*) AS Total_Transactions

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES";

Results (just now)

Table Chart

1 row 47ms

Table

1

2000

2025-10-16 11:49am

▶ ▼ ⚙

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

1

SELECT AVG(AGE) AS Average_Age

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES";

Results (just now)

Table Chart

1 row 129ms

Table

1

41.392000

2025-10-16 11:49am

▶ ▼ ⚙

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

1

SELECT SUM(QUANTITY) AS Total_Quantity

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES";

Results (2 minutes ago)

Table Chart

1 row 848ms

Table

1

5028

2025-10-16 11:49am

▶ ▼ ⚙

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

1

SELECT MAX(TOTAL_AMOUNT) AS Max_Total_Amount

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES";

Results (1 minute ago)

Table Chart

1 row 43ms

Table

1

2000

2025-10-16 11:49am

▶ ▼ ⚙

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

1

SELECT MIN(PRICE_PER_UNIT) AS Min_Price_per_Unit

2

FROM

3

"RETAIL"."SALES"."RETAIL_SALES";

Results (2 minutes ago)

Table Chart

1 row 35ms

Table

1

25

5. GROUP BY Statement

2025-10-16 11:49am

+

ACCOUNTADMIN

•

COMPUTE_WH (X-Small)

Choose database

...

1

2

3

4

SELECT Product_Category, COUNT(*) AS Transaction_Count

FROM

"RETAIL"."SALES"."RETAIL_SALES"

GROUP BY Product_Category;

Results (just now)

Table

Chart

3 rows

2.5s

↓

| | PRODUCT_CATEGORY | TRANSACTION_COUNT |
|---|------------------|-------------------|
| 1 | Electronics | 684 |
| 2 | Clothing | 702 |
| 3 | Beauty | 614 |

2025-10-16 11:49am

+

ACCOUNTADMIN

•

COMPUTE_WH (X-Small)

Choose database

...

1

2

3

4

SELECT Gender, SUM(Total_Amount) AS Total_Revenue

FROM

"RETAIL"."SALES"."RETAIL_SALES"

GROUP BY Gender;

Results (1 minute ago)

Table

Chart

2 rows

95ms

↓

| | GENDER | TOTAL_REVENUE |
|---|--------|---------------|
| 1 | Male | 446320 |
| 2 | Female | 465680 |

2025-10-16 11:49am

+

ACCOUNTADMIN

•

COMPUTE_WH (X-Small)

Choose database

...

1

2

3

4

SELECT PRODUCT_CATEGORY, AVG(PRICE_PER_UNIT) AS Average_Price

FROM

"RETAIL"."SALES"."RETAIL_SALES"

GROUP BY PRODUCT_CATEGORY;

Results (12 minutes ago)

Table

Chart

3 rows

121ms

↓

| | PRODUCT_CATEGORY | AVERAGE_PRICE |
|---|------------------|---------------|
| 1 | Clothing | 174.287749 |
| 2 | Beauty | 184.055375 |
| 3 | Electronics | 181.900585 |

6. HAVING Clause

2025-10-16 11:49am

+

ACCOUNTADMIN

•

COMPUTE_WH (X-Small)

Choose database

...

1

2

3

4

5

SELECT PRODUCT_CATEGORY, SUM(Total_Amount) AS Total_Revenue

FROM

"RETAIL"."SALES"."RETAIL_SALES"

GROUP BY PRODUCT_CATEGORY

HAVING SUM(Total_Amount) > 10000;

Results (6 minutes ago)

Table

Chart

3 rows

2.9s

↓

| | PRODUCT_CATEGORY | TOTAL_REVENUE |
|---|------------------|---------------|
| 1 | Clothing | 311160 |
| 2 | Beauty | 287030 |
| 3 | Electronics | 313810 |

2025-10-16 11:49am +

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

```

1 SELECT PRODUCT_CATEGORY, AVG(QUANTITY) AS Average_Quantity
2 FROM
3 "RETAIL"."SALES"."RETAIL_SALES"
4 GROUP BY PRODUCT_CATEGORY
5 HAVING AVG(QUANTITY) > 2;

```

Results (just now)

Table Chart 3 rows 1.3s

| | PRODUCT_CATEGORY | AVERAGE_QUANTITY |
|---|------------------|------------------|
| 1 | Clothing | 2.547009 |
| 2 | Beauty | 2.511401 |
| 3 | Electronics | 2.482456 |

7. CASE Statement

2025-10-16 11:49am +

ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

```

1 SELECT Transaction_ID, Total_Amount,
2 CASE
3 WHEN Total_Amount > 1000 THEN 'High'
4 ELSE 'Low'
5 END AS Spending_Level
6 FROM
7 "RETAIL"."SALES"."RETAIL_SALES";

```

Results (1 minute ago)

Table Chart 2,000 rows 130ms

| | TRANSACTION_ID | TOTAL-AMOUNT | SPENDING_LEVEL |
|----|----------------|--------------|----------------|
| 1 | 1 | 25 | Low |
| 2 | 2 | 1000 | Low |
| 3 | 3 | 30 | Low |
| 4 | 4 | 500 | Low |
| 5 | 5 | 100 | Low |
| 6 | 6 | 30 | Low |
| 7 | 7 | 50 | Low |
| 8 | 8 | 100 | Low |
| 9 | 9 | 600 | Low |
| 10 | 10 | 200 | Low |
| 11 | 11 | 100 | Low |
| 12 | 12 | 75 | Low |
| 13 | 13 | 1500 | High |

2025-10-16 11:49am

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ACCOUNTADMIN • COMPUTE_WH (X-Small) Choose database ...

```
1 SELECT CUSTOMER_ID, AGE,
2     CASE
3         WHEN Age < 30 THEN 'Youth'
4         WHEN Age BETWEEN 30 AND 59 THEN 'Adult'
5         ELSE 'Senior'
6     END AS Age_Group
7 FROM
8     "RETAIL"."SALES"."RETAIL_SALES";
```

Results (3 minutes ago)

Table Chart

🔍 📄 2,000 rows ⓘ 144ms ⬇

| | CUSTOMER_ID | AGE | AGE_GROUP |
|--|-------------|-----|-----------|
| | CUST001 | 34 | Adult |
| | CUST002 | 26 | Youth |
| | CUST003 | 50 | Adult |
| | CUST004 | 37 | Adult |
| | CUST005 | 30 | Adult |
| | CUST006 | 45 | Adult |
| | CUST007 | 46 | Adult |
| | CUST008 | 30 | Adult |
| | CUST009 | 63 | Senior |
| | CUST010 | 52 | Adult |
| | CUST011 | 23 | Youth |
| | CUST012 | 35 | Adult |