

Mahura Kegomoditswe:

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

1. SELECT Statement

2025-10-16 11:49am +

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

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

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 +

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

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

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 +

```

1 | SELECT
2 |   DISTINCT PRODUCT_CATEGORY
3 | FROM
4 |   "RETAIL"."SALES"."RETAIL_SALES"

```

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

Results (1 minute ago)

	PRODUCT_CATEGORY
1	Electronics
2	Clothing
3	Beauty

3 rows 806ms

2025-10-16 11:49am +

```

1 | SELECT
2 |   DISTINCT GENDER
3 | FROM
4 |   "RETAIL"."SALES"."RETAIL_SALES"

```

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

Results (1 minute ago)

	GENDER
1	Male
2	Female

2 rows 72ms

3. WHERE Clause

2025-10-16 11:49am +

```

1 | SELECT *
2 | FROM
3 |   "RETAIL"."SALES"."RETAIL_SALES"
4 | WHERE AGE > 40;

```

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

Results (7 minutes ago)

	TRANSACTION_ID	DATE	CUSTOMER_ID	GENDER	AGE	PRODUCT_CATEGORY	QUANTITY	PRICE_PER_UNIT	TOTAL_AMOUNT
3	1000	1/1/2... 1/1/2...	CUST003 CUST006 +98 more	Female 51.3% Male 48.7%	41 64	Clothing 36.3% Electronics 34.8% +1 more	1 4	25 500	25 2000
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

1,068 rows 38ms

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SELECT *
FROM
"RETAIL"."SALES"."RETAIL_SALES"
WHERE PRICE_PER_UNIT BETWEEN 100 AND 500;

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

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	994	1/1/2... 1/1/2...	CUST002 CUST004 +98 more	Female 51.8% Male 48.2%	18 64	Electronics Clothing +1 more	35.1% 34.3%	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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SELECT *
FROM
"RETAIL"."SALES"."RETAIL_SALES"
WHERE PRODUCT_CATEGORY IN ('Beauty', 'Electronics');

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

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	1000	1/1/2... 1/1/2...	CUST001 CUST003 +98 more	Female 51.8% Male 48.2%	18 64	Electronics Beauty	52.7% 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

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SELECT *
FROM
"RETAIL"."SALES"."RETAIL_SALES"
WHERE PRODUCT_CATEGORY <> 'Clothing';

Results (just now)

Table | Chart

1,298 rows 1.8s

	# 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	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

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SELECT *
FROM
"RETAIL"."SALES"."RETAIL_SALES"
WHERE QUANTITY >= 3;

Results (just now)

Table | Chart

1,008 rows 85ms

	# 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	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

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```
1 | SELECT COUNT(*) AS Total_Transactions
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES";
```

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

Results (just now)

Table Chart

1 row 47ms

	## TOTAL_TRANSACTIONS
1	2000

2025-10-16 11:49am +

```
1 | SELECT AVG(AGE) AS Average_Age
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES";
```

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

Results (just now)

Table Chart

1 row 129ms

	## AVERAGE_AGE
1	41.392000

2025-10-16 11:49am +

```
1 | SELECT SUM(QUANTITY) AS Total_Quantity
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES";
```

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

Results (2 minutes ago)

Table Chart

1 row 848ms

	## TOTAL_QUANTITY
1	5028

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```
1 | SELECT MAX(TOTAL_AMOUNT) AS Max_Total_Amount
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES";
```

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

Results (1 minute ago)

Table Chart

1 row 43ms

	## MAX_TOTAL_AMOUNT
1	2000

2025-10-16 11:49am +

```
1 | SELECT MIN(PRICE_PER_UNIT) AS Min_Price_per_Unit
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES";
```

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

Results (2 minutes ago)

Table Chart

1 row 35ms

	## MIN_PRICE_PER_UNIT
1	25

5. GROUP BY Statement

2025-10-16 11:49am +

```

1 | SELECT Product_Category, COUNT(*) AS Transaction_Count
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES"
4 | GROUP BY Product_Category;

```

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

Results (just now)

	PRODUCT_CATEGORY	TRANSACTION_COUNT
1	Electronics	684
2	Clothing	702
3	Beauty	614

2025-10-16 11:49am +

```

1 | SELECT Gender, SUM(Total_Amount) AS Total_Revenue
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES"
4 | GROUP BY Gender;

```

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

Results (1 minute ago)

	GENDER	TOTAL_REVENUE
1	Male	446320
2	Female	465680

2025-10-16 11:49am +

```

1 | SELECT PRODUCT_CATEGORY, AVG(PRICE_PER_UNIT) AS Average_Price
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES"
4 | GROUP BY PRODUCT_CATEGORY;

```

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

Results (12 minutes ago)

	PRODUCT_CATEGORY	AVERAGE_PRICE
1	Clothing	174.287749
2	Beauty	184.055375
3	Electronics	181.900585

6. HAVING Clause

2025-10-16 11:49am +

```

1 | SELECT PRODUCT_CATEGORY, SUM(Total_Amount) AS Total_Revenue
2 | FROM
3 | "RETAIL"."SALES"."RETAIL_SALES"
4 | GROUP BY PRODUCT_CATEGORY
5 | HAVING SUM(Total_Amount) > 10000;

```

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

Results (6 minutes ago)

	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

	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 |
7 | FROM
8 |     "RETAIL"."SALES"."RETAIL_SALES";

```

Results (1 minute ago)

Table Chart

	TRANSACTION_ID	TOTAL_AMOUNT	SPENDING_LEVEL
1	1	150	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 +

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

20 CUSTOMER_ID # AGE AGE_GROUP

CUSTOMER_ID	# AGE	AGE_GROUP	
CUST001	0.1%	18	Adult
CUST002	0.1%	26	Youth
+98 more		34	Adult
1 CUST001		37	Adult
2 CUST002		50	Adult
3 CUST003		30	Adult
4 CUST004		45	Adult
5 CUST005		46	Adult
6 CUST006		30	Adult
7 CUST007		63	Senior
8 CUST008		52	Adult
9 CUST009		23	Youth
10 CUST010		35	Adult
11 CUST011			
12 CUST012			

2,000 rows 144ms