SQL for Data Analysis

Ecommerce_SQL_Database

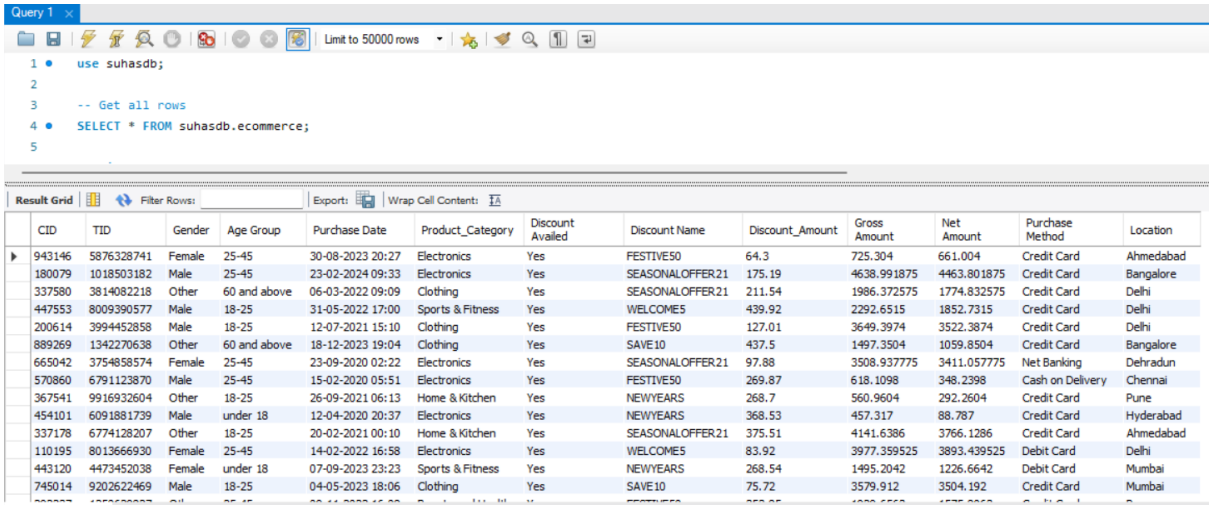
Learn to manipulate and query structured data using SQL

1. SELECT

use suhasdb;

-- Get all rows

*SELECT * FROM suhasdb.ecommerce;*



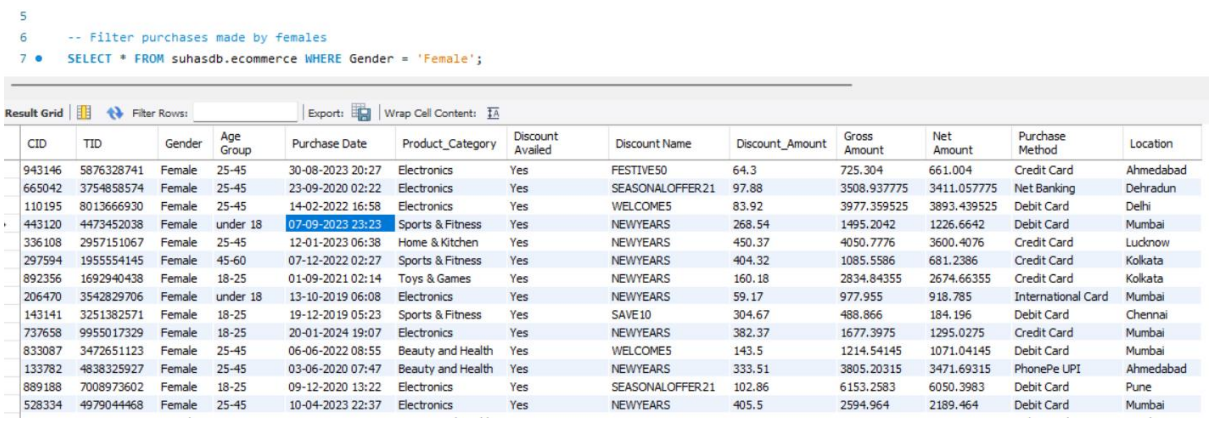
```
use suhasdb;

-- Get all rows
SELECT * FROM suhasdb.ecommerce;
```

CID	TID	Gender	Age Group	Purchase Date	Product_Category	Discount Availed	Discount Name	Discount_Amount	Gross Amount	Net Amount	Purchase Method	Location
943146	5876328741	Female	25-45	30-08-2023 20:27	Electronics	Yes	FESTIVE50	64.3	725.304	661.004	Credit Card	Ahmedabad
180079	1018503182	Male	25-45	23-02-2024 09:33	Electronics	Yes	SEASONALOFFER21	175.19	4638.991875	4463.801875	Credit Card	Bangalore
337580	3814082218	Other	60 and above	06-03-2022 09:09	Clothing	Yes	SEASONALOFFER21	211.54	1986.372575	1774.832575	Credit Card	Delhi
447553	8009390577	Male	18-25	31-05-2022 17:00	Sports & Fitness	Yes	WELCOME5	439.92	2292.6515	1852.7315	Credit Card	Delhi
200614	3994452858	Male	18-25	12-07-2021 15:10	Clothing	Yes	FESTIVE50	127.01	3649.3974	3522.3874	Credit Card	Delhi
889269	1342270638	Other	60 and above	18-12-2023 19:04	Clothing	Yes	SAVE10	437.5	1497.3504	1059.8504	Credit Card	Bangalore
665042	3754858574	Female	25-45	23-09-2020 02:22	Electronics	Yes	SEASONALOFFER21	97.88	3508.937775	3411.057775	Net Banking	Dehradun
570860	6791123870	Male	25-45	15-02-2020 05:51	Electronics	Yes	FESTIVE50	269.87	618.1098	348.2398	Cash on Delivery	Chennai
367541	9916932604	Other	18-25	26-09-2021 06:13	Home & Kitchen	Yes	NEWYEARS	268.7	560.9604	292.2604	Credit Card	Pune
454101	6091881739	Male	under 18	12-04-2020 20:37	Electronics	Yes	NEWYEARS	368.53	457.317	88.787	Credit Card	Hyderabad
337178	6774128207	Other	18-25	20-02-2021 00:10	Home & Kitchen	Yes	SEASONALOFFER21	375.51	4141.6386	3766.1286	Credit Card	Ahmedabad
110195	8013666930	Female	25-45	14-02-2022 16:58	Electronics	Yes	WELCOME5	83.92	3977.359525	3893.439525	Debit Card	Delhi
443120	4473452038	Female	under 18	07-09-2023 23:23	Sports & Fitness	Yes	NEWYEARS	268.54	1495.2042	1226.6642	Debit Card	Mumbai
745014	9202622469	Male	18-25	04-05-2023 18:06	Clothing	Yes	SAVE10	75.72	3579.912	3504.192	Credit Card	Mumbai

2. WHERE

-- Filter purchases made by females

*SELECT * FROM suhasdb.ecommerce WHERE Gender = 'Female';*



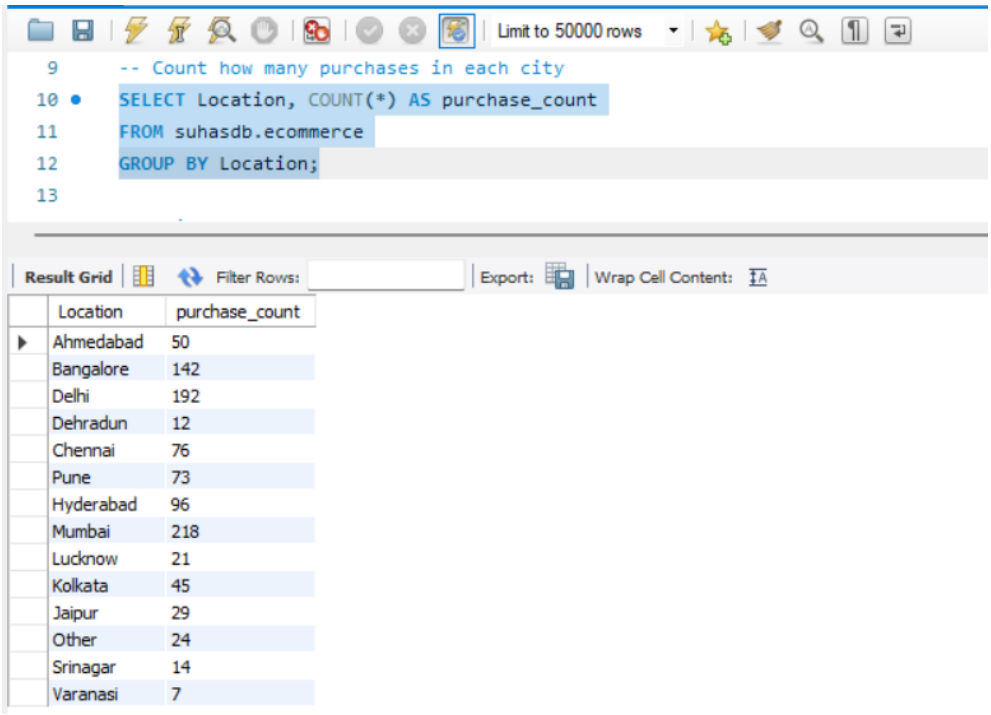
```
-- Filter purchases made by females
SELECT * FROM suhasdb.ecommerce WHERE Gender = 'Female';
```

CID	TID	Gender	Age Group	Purchase Date	Product_Category	Discount Availed	Discount Name	Discount_Amount	Gross Amount	Net Amount	Purchase Method	Location
943146	5876328741	Female	25-45	30-08-2023 20:27	Electronics	Yes	FESTIVE50	64.3	725.304	661.004	Credit Card	Ahmedabad
665042	3754858574	Female	25-45	23-09-2020 02:22	Electronics	Yes	SEASONALOFFER21	97.88	3508.937775	3411.057775	Net Banking	Dehradun
110195	8013666930	Female	25-45	14-02-2022 16:58	Electronics	Yes	WELCOME5	83.92	3977.359525	3893.439525	Debit Card	Delhi
443120	4473452038	Female	under 18	07-09-2023 23:23	Sports & Fitness	Yes	NEWYEARS	268.54	1495.2042	1226.6642	Debit Card	Mumbai
336108	2957151067	Female	25-45	12-01-2023 06:38	Home & Kitchen	Yes	NEWYEARS	450.37	4050.7776	3600.4076	Credit Card	Lucknow
297594	1955554145	Female	45-60	07-12-2022 02:27	Sports & Fitness	Yes	NEWYEARS	404.32	1085.5586	681.2386	Credit Card	Kolkata
892356	1692940438	Female	18-25	01-09-2021 02:14	Toys & Games	Yes	NEWYEARS	160.18	2834.84355	2674.66355	Credit Card	Kolkata
206470	3542829706	Female	under 18	13-10-2019 06:08	Electronics	Yes	NEWYEARS	59.17	977.955	918.785	International Card	Mumbai
143141	3251382571	Female	18-25	19-12-2019 05:23	Sports & Fitness	Yes	SAVE10	304.67	488.866	184.196	Debit Card	Chennai
737658	9955017329	Female	18-25	20-01-2024 19:07	Electronics	Yes	NEWYEARS	382.37	1677.3975	1295.0275	Credit Card	Mumbai
833087	3472651123	Female	25-45	06-06-2022 08:55	Beauty and Health	Yes	WELCOME5	143.5	1214.54145	1071.04145	Debit Card	Mumbai
133782	4838325927	Female	25-45	03-06-2020 07:47	Beauty and Health	Yes	NEWYEARS	333.51	3805.20315	3471.69315	PhonePe UPI	Ahmedabad
889188	7008973602	Female	18-25	09-12-2020 13:22	Electronics	Yes	SEASONALOFFER21	102.86	6153.2583	6050.3983	Debit Card	Pune
528334	4979044468	Female	25-45	10-04-2023 22:37	Electronics	Yes	NEWYEARS	405.5	2594.964	2189.464	Debit Card	Mumbai

3. *GROUP BY*

-- Count how many purchases in each city

SELECT Location, COUNT(*) AS purchase_count
FROM suhasdb.ecommerce
GROUP BY Location;



```
9   -- Count how many purchases in each city
10  SELECT Location, COUNT(*) AS purchase_count
11  FROM suhasdb.ecommerce
12  GROUP BY Location;
13
```

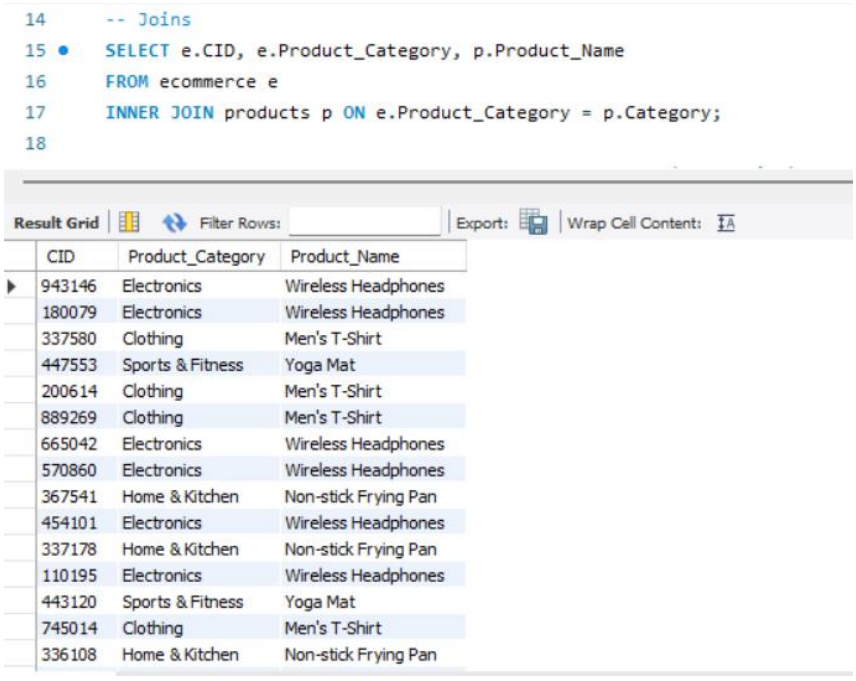
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Location	purchase_count
Ahmedabad	50
Bangalore	142
Delhi	192
Dehradun	12
Chennai	76
Pune	73
Hyderabad	96
Mumbai	218
Lucknow	21
Kolkata	45
Jaipur	29
Other	24
Srinagar	14
Varanasi	7

4. JOINS (INNER, LEFT, RIGHT)

-- Joins

SELECT e.CID, e.Product_Category, p.Product_Name
FROM ecommerce e
INNER JOIN products p ON e.Product_Category = p.Category;



```
14  -- Joins
15  SELECT e.CID, e.Product_Category, p.Product_Name
16  FROM ecommerce e
17  INNER JOIN products p ON e.Product_Category = p.Category;
18
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CID	Product_Category	Product_Name
943146	Electronics	Wireless Headphones
180079	Electronics	Wireless Headphones
337580	Clothing	Men's T-Shirt
447553	Sports & Fitness	Yoga Mat
200614	Clothing	Men's T-Shirt
889269	Clothing	Men's T-Shirt
665042	Electronics	Wireless Headphones
570860	Electronics	Wireless Headphones
367541	Home & Kitchen	Non-stick Frying Pan
454101	Electronics	Wireless Headphones
337178	Home & Kitchen	Non-stick Frying Pan
110195	Electronics	Wireless Headphones
443120	Sports & Fitness	Yoga Mat
745014	Clothing	Men's T-Shirt
336108	Home & Kitchen	Non-stick Frying Pan

5. **SUBQUERIES**

-- Customers who spent more than average net amount (Subqueries)

*SELECT * FROM suhasdb.ecommerce*

WHERE `Net Amount` > (

SELECT AVG(`Net Amount`) FROM suhasdb.ecommerce

```
19    -- Customers who spent more than average net amount (Subqueries)
20 •  SELECT * FROM suhasdb.ecommerce
21    WHERE `Net Amount` > (
22        SELECT AVG(`Net Amount`) FROM suhasdb.ecommerce
23    );
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

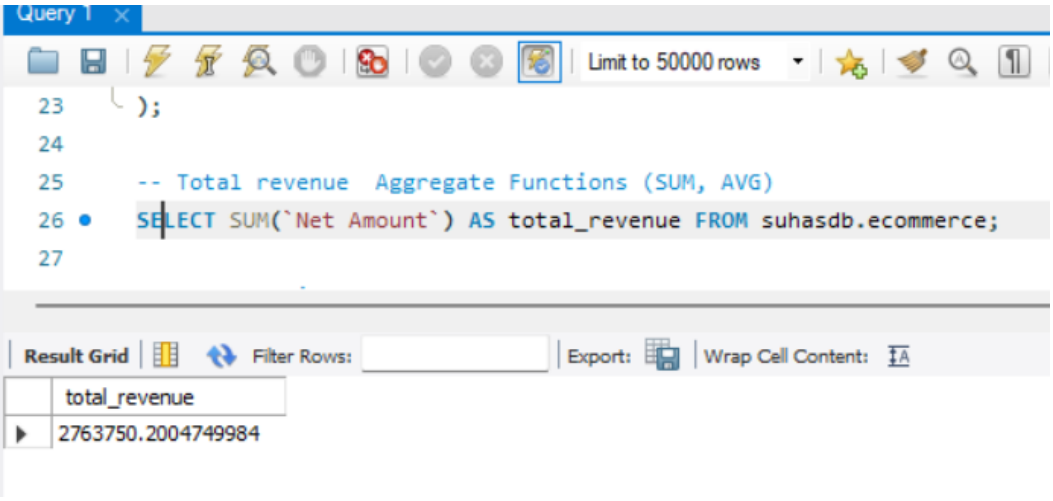
CID	TID	Gender	Age Group	Purchase Date	Product_Category	Discount Availed	Discount Name	Discount_Amount	Gross Amount	Net Amount	Purchase Method	Location
180079	1018503182	Male	25-45	23-02-2024 09:33	Electronics	Yes	SEASONALOFFER21	175.19	4638.991875	4463.801875	Credit Card	Bangalore
200614	3994452858	Male	18-25	12-07-2021 15:10	Clothing	Yes	FESTIVE50	127.01	3649.3974	3522.3874	Credit Card	Delhi
665042	3754858574	Female	25-45	23-09-2020 02:22	Electronics	Yes	SEASONALOFFER21	97.88	3508.937775	3411.057775	Net Banking	Dehradun
337178	6774128207	Other	18-25	20-02-2021 00:10	Home & Kitchen	Yes	SEASONALOFFER21	375.51	4141.6386	3766.1286	Credit Card	Ahmedabad
110195	8013666930	Female	25-45	14-02-2022 16:58	Electronics	Yes	WELCOME5	83.92	3977.359525	3893.439525	Debit Card	Delhi
745014	9202622469	Male	18-25	04-05-2023 18:06	Clothing	Yes	SAVE10	75.72	3579.912	3504.192	Credit Card	Mumbai
336108	2957151067	Female	25-45	12-01-2023 06:38	Home & Kitchen	Yes	NEWYEARS	450.37	4050.7776	3600.4076	Credit Card	Lucknow
171973	7034831125	Other	25-45	08-12-2019 21:48	Home & Kitchen	Yes	SEASONALOFFER21	108.87	6862.828	6753.958	Credit Card	Delhi
427162	6407323241	Other	under 18	14-10-2019 07:26	Beauty and Health	Yes	SEASONALOFFER21	425.57	3272.687	2847.117	Debit Card	Mumbai
592489	5651462936	Male	60 and above	19-01-2022 04:05	Beauty and Health	Yes	WELCOME5	489.29	4225.1184	3735.8284	Google Pay UPI	Chennai
520940	7063849825	Male	45-60	27-04-2024 20:06	Other	Yes	SAVE10	50.76	5798.8	5748.04	Credit Card	Mumbai
770342	1497451839	Other	25-45	21-11-2022 10:06	Toys & Games	Yes	SEASONALOFFER21	172.82	3745.5132	3572.6932	Debit Card	Bangalore
136445	6352709082	Male	18-25	20-12-2019 17:58	Sports & Fitness	Yes	WELCOME5	290.36	6368.04	6077.68	Debit Card	Bangalore
695402	2414884090	Other	25-45	12-04-2022 12:31	Clothing	Yes	SAVE10	89	5089.7965	5000.7965	Paytm UPI	Delhi

);

6. **Aggregate Functions (SUM, AVG)**

-- Total revenue Aggregate Functions (SUM, AVG)

SELECT SUM(`Net Amount`) AS total_revenue FROM suhasdb.ecommerce;



7. ***GROUP BY AND ORDER BY***

SELECT Product_Category, AVG(Discount_Amount) AS avg_discount
FROM suhasdb.ecommerce
GROUP BY Product_Category
ORDER BY avg_discount DESC;

```
28
29 •    SELECT Product_Category, AVG(Discount_Amount) AS avg_discount
30      FROM suhasdb.ecommerce
31      GROUP BY Product_Category
32      ORDER BY avg_discount DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Product_Category	avg_discount
Pet Care	314.5946153494028
Toys & Games	288.7406473467427
Beauty and Health	285.9855111310271
Home & Kitchen	283.1757525216162
Electronics	281.3233869860249
Clothing	279.86817731459934
Sports & Fitness	275.7219997406006
Books	252.2895450592041
Other	228.21638923221164

8. **QUIRES**

*-- **Revenue by age group***
SELECT `Age Group`, SUM(`Net Amount`) AS total_revenue
FROM ecommerce
GROUP BY `Age Group`
ORDER BY total_revenue DESC;

```
34      -- Revenue by age group
35 •    SELECT `Age Group`, SUM(`Net Amount`) AS total_revenue
36      FROM ecommerce
37      GROUP BY `Age Group`
38      ORDER BY total_revenue DESC;
39
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Age Group	total_revenue
25-45	1081244.8638999995
18-25	866701.8829999998
45-60	533403.5185499999
60 and above	153001.53295000002
under 18	129398.40207499998