

# SQL PROJECT ON RETAIL SALES





**In this project, SQL Queries are used to explore, clean and analyze the retail sales data. Few business questions are answered through the SQL Queries as well.**

# Database and Table creation

```
1  -- Creation of Database and Table for the same.  
2  
3 • CREATE DATABASE retail_sales;  
4 • USE retail_sales;  
5  
6 • CREATE TABLE sales (  
7      transactions_id INT PRIMARY KEY,  
8      sale_date DATE,  
9      sale_time TIME,  
10     customer_id INT,  
11     gender VARCHAR(10),  
12     age INT,  
13     category VARCHAR(30),  
14     quantity INT,  
15     price_per_unit FLOAT,  
16     cogs FLOAT,  
17     total_sales FLOAT  
18 );
```

# Data Exploration

```
1      -- Data Exploration
2      -- Record Count
3 •   SELECT COUNT(*) FROM sales;
4
5      -- Customer Count : how many unique customers in the dataset
6 •   SELECT
7          COUNT(DISTINCT customer_id) AS total_customers
8      FROM
9          sales;
10
11     -- Category Count: how many unique product categories in the dataset
12 •   SELECT
13        COUNT(DISTINCT category) AS product_categories
14      FROM
15        sales;
16
```

# Data Cleaning

## (Null Value Checking)

```
1  -- Data Cleaning
2
3  -- Null value check: checking any null values in the dataset and delete records with missing data
4
5 •  SELECT
6    *
7  FROM
8    sales
9  WHERE
10    transactions_id IS NULL
11      OR sale_date IS NULL
12      OR sale_time IS NULL
13      OR gender IS NULL
14      OR category IS NULL
15      OR quantity IS NULL
16      OR price_per_unit IS NULL
17      OR cogs IS NULL
18      OR total_sales IS NULL;
```

# Data Cleaning

(Delete records if missing)

```
1 -- Delete records if there's any missing in dataset
2
3 • DELETE FROM sales
4 WHERE
5     transactions_id IS NULL
6     OR sale_date IS NULL
7     OR sale_time IS NULL
8     OR gender IS NULL
9     OR category IS NULL
10    OR quantity IS NULL
11    OR price_per_unit IS NULL
12    OR cogs IS NULL
13    OR total_sales IS NULL;
```

```

1 -- Retrieve all columns for sales made on '05-11-2022'
2
3 • SELECT
4 *
5 FROM
6 sales
7 WHERE
8     sale_date = '2022-11-05';
9

```

Result Grid | Filter Rows:  | Edit: Export/Import: | Wrap Cell Content:

	transactions_id	sale_date	sale_time	customer_id	gender	age	category	quantity	price_per_unit	cogs	total_sales
▶	180	2022-11-05	10:47:00	117	Male	41	Clothing	3	300	129	900
	214	2022-11-05	16:31:00	53	Male	20	Beauty	2	30	8.1	60
	240	2022-11-05	11:49:00	95	Female	23	Beauty	1	300	123	300
	856	2022-11-05	17:43:00	102	Male	54	Electronics	4	30	9.3	120
	943	2022-11-05	19:29:00	90	Female	57	Clothing	4	300	318	1200
	1137	2022-11-05	22:34:00	104	Male	46	Beauty	2	500	145	1000
	1256	2022-11-05	09:58:00	29	Male	23	Clothing	2	500	190	1000
	1265	2022-11-05	14:35:00	86	Male	55	Clothing	3	300	111	900
	1587	2022-11-05	20:06:00	140	Female	40	Beauty	4	300	105	1200
	1819	2022-11-05	20:44:00	83	Female	35	Beauty	2	50	13.5	100
	1896	2022-11-05	20:19:00	87	Female	30	Electronics	2	25	30.75	50
●	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



```
1 -- Calculate the total sales for each category  
2  
3 • SELECT  
4     category,  
5     SUM(total_sales) AS net_sales,  
6     COUNT(*) AS total_orders  
7 FROM  
8     sales  
9 GROUP BY category;  
10
```

Result Grid | Filter Rows:  | Export

	category	net_sales	total_orders
▶	Beauty	286790	611
	Clothing	309995	698
	Electronics	311445	678



-- Average age of customers who purchased items from the 'Beauty' category

**SELECT**

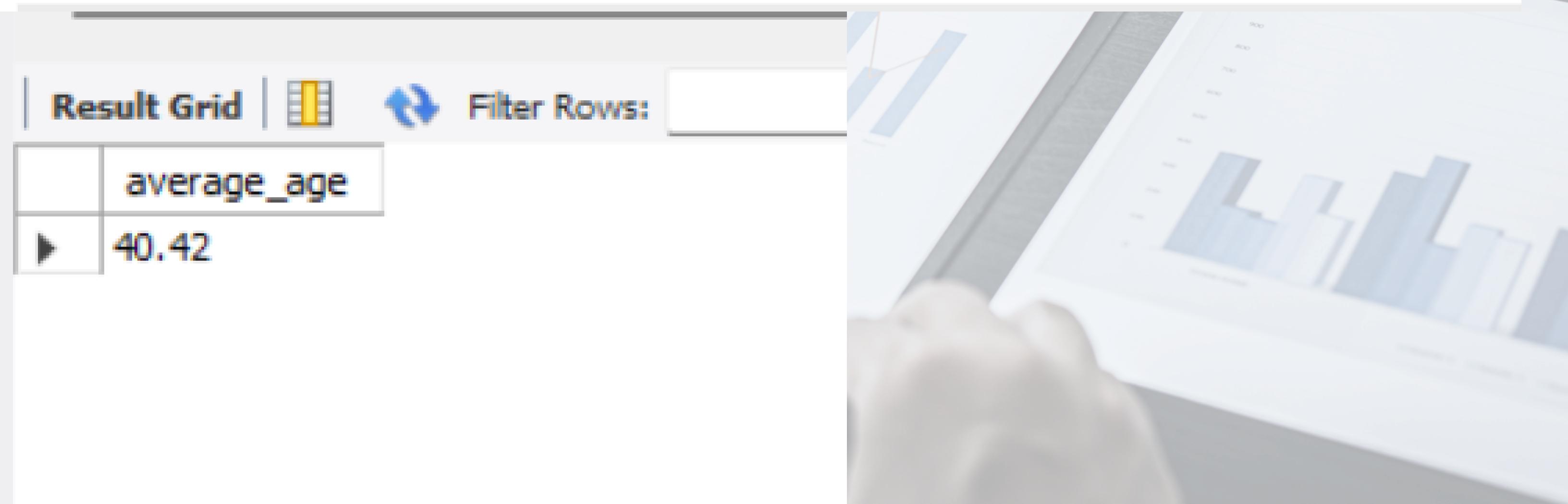
ROUND(AVG(age), 2) AS average\_age

**FROM**

sales

**WHERE**

category = 'Beauty';



```
1 -- Find top 5 customers based on the highest total sales
2
3 • SELECT
4     customer_id, SUM(total_sales) AS net_sales
5 FROM
6     sales
7 GROUP BY customer_id
8 LIMIT 5;
```

Result Grid | Filter Rows:

	customer_id	net_sales
▶	50	6480
	104	7520
	114	6820
	3	38440
	2	25295

-- Find the number of unique customers who purchased items from each category

**SELECT**

    category, COUNT(DISTINCT customer\_id) AS unique\_customers

**FROM**

    sales

**GROUP BY** category;

Result Grid | Filter Rows:

	category	unique_customers
▶	Beauty	141
	Clothing	149
	Electronics	144

RETAIL SALES ANALYSIS

# THANK YOU

See You Next