

MYSQL PROJECT

# DQSTORE SALES DATA ANALYSIS IN JULY- DECEMBER 2021

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# Background



DQstore is a fictional retail store that sells drinks, snacks, and sweets which is being developed by the DQLab team. They ask you to analyze the average sales and product quantity in one purchase by buyers, customer segmentation based on domicile and products purchased, and monthly total sales and customer purchase quantity in July-December 2021 on the islands of Java and Bali..

## **1. TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS**

- Total sales and purchase quantity
- Total sales and purchase quantity by province
- Top 5 most profitable transaction
- Top 5 most profitable city

## **2. CUSTOMER SEGMENTATION**

- Top 5 buyers with the highest sales and purchase quantity
- Average of sales and purchase quantity on total customers based on province and city
- Total and average of sales and purchase quantity on total customers based on the product brand and brand category

## **3. MONTHLY SALES AND PRODUCT QUANTITY**

- Total sales and purchase quantity by month
- Total sales and purchase quantity per brand category by month

# **Problem Description**

# SQL

SQL (Structured Query Language) is a standard language for accessing and manipulating databases. SQL is used to manipulate data in the RDBMS (Relational Database Management System) and is stored in a 'Table' consisting of rows and columns containing a collection of related data entries.



# MySQL



MySQL is a database management system using SQL (Structured Query Language) basic commands that are open source with two licenses, namely Free Software (free software) and Shareware (proprietary software whose use is limited).

The advantages of MySQL over RDBMS include the following:

- Supports integration with other programming languages.
- Flexible table structure.
- Many data types can be used
- Guaranteed safety
- Support multi-user

The data used in this project analysis database is taken from retail store transaction data from July to December 2022 which is stored in csv format at [https://storage.googleapis.com/dqlab-dataset/retail\\_raw\\_reduced.csv](https://storage.googleapis.com/dqlab-dataset/retail_raw_reduced.csv)

## Data Source

In the data to be used for querying, each column contains the following:

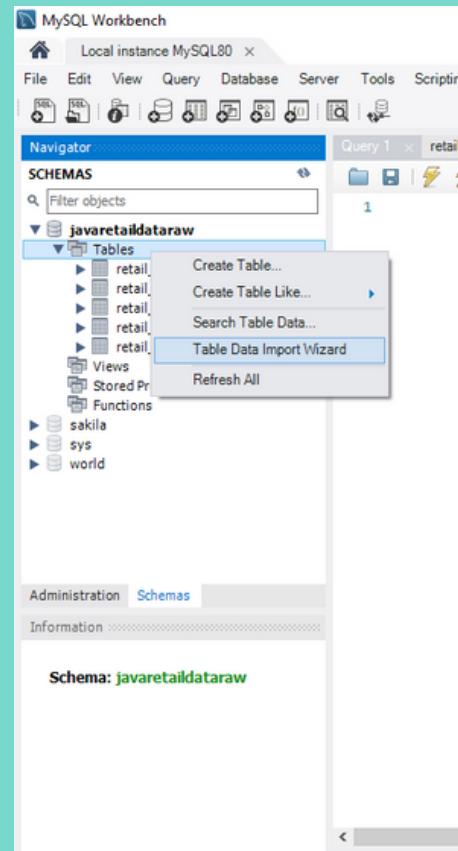
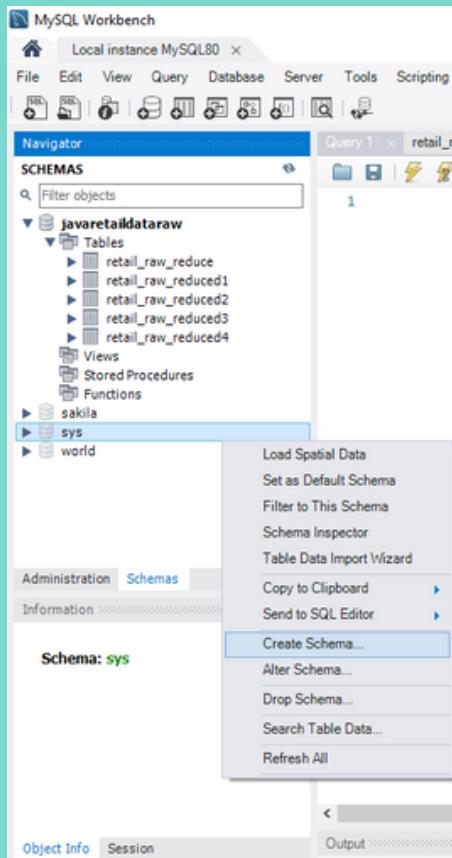
- **order\_id**: ID of the order/transaction; 1 transaction can consist of several products but only done by one customer
- **order\_date**: The date of the transaction
- **customer\_id**: ID of the buyer, it could be in one day, one customer makes transactions several times
- **city**: The city where the shop transactions occur
- **province : province (by city)**
- **product\_id**: ID of a purchased product
- **brand**: Brand of the product. The same product must have the same brand
- **quantity**: Quantity/number of products purchased
- **item\_price**: Price of 1 product (in Rupiah). The same product may have a different price when purchased

# Data Source

# Create Data Table

First, we create a data schema that will be filled with data tables that will be queried in MySQL. First, create a new schema. Then, in the navigator, select schema, right-click and select Create Schema.

After creating the schema, right-click the tables on our schema and select 'Table Data Import Wizard.' Next, select the CSV / JSON file to be queried, and select create new table. Next, determine what data you want to display in the columns and wait for MySQL to import the data into the database.



# Create Data Table

To check that the table is filled with data, we can write a query like this:

```
1 •  SELECT *
2      FROM javaretaildataraw.retail_raw_reduced1;
```

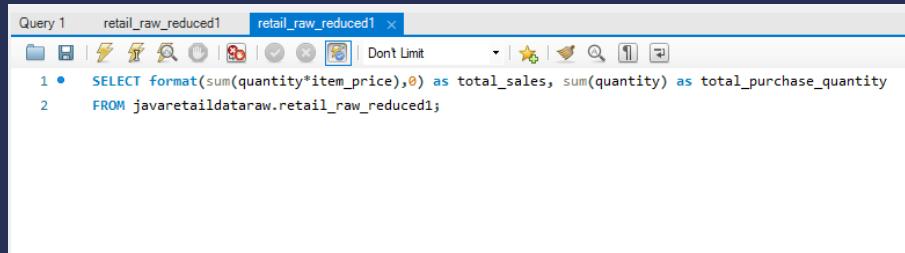
If the data is successfully imported into the table, the query results will show the results as below.

The screenshot shows a database query results grid titled "Result Grid". The table has ten columns: order\_id, order\_date, customer\_id, city, province, product\_id, brand, quantity, and item\_price. The data consists of 15 rows, each representing a different order. The "order\_id" column contains values such as 1666813, 1666948, 1667185, etc. The "order\_date" column shows dates like 07/01/21. The "customer\_id" column contains IDs like 16612, 15386, 17252, etc. The "city" column lists cities like Jakarta Selatan, Jakarta Pusat, Bogor, Denpasar, Bandung, Malang, Bogor, Yogyakarta, Bandung, and Bogor. The "province" column shows provinces like DKI Jakarta, Jawa Barat, Bali, Jawa Barat, Jawa Barat, Jawa Barat, Jawa Timur, Jawa Barat, Yogyakarta, Jawa Barat, and Jawa Barat. The "product\_id" column contains IDs like P4059, P0672, P2537, P0628, P4087, P3344, P3254, P1867, P2933, P4097, and P2521. The "brand" column includes entries like BRAND\_W, BRAND\_C, BRAND\_P, BRAND\_C, BRAND\_W, BRAND\_S, BRAND\_S, BRAND\_R, BRAND\_W, and BRAND\_P. The "quantity" column shows values like 2, 12, 6, 1, 6, 12, 12, 2, 1, and 8. The "item\_price" column displays prices like 2795000, 159000, 310000, 1745000, 800000, 520000, 450000, 520000, 1045000, 1045000, and 1745000. The bottom of the screen shows the table name "retail\_raw\_reduced1" and the word "Output".

	order_id	order_date	customer_id	city	province	product_id	brand	quantity	item_price
▶	1666813	07/01/21	16612	Jakarta Selatan	DKI Jakarta	P4059	BRAND_W	2	2795000
	1666948	07/01/21	15386	Jakarta Pusat	DKI Jakarta	P0672	BRAND_C	12	159000
	1667185	07/01/21	17252	Bogor	Jawa Barat	P2537	BRAND_P	6	310000
	1667185	07/01/21	17252	Bogor	Jawa Barat	P0628	BRAND_C	1	1745000
	1667158	07/01/21	12609	Denpasar	Bali	P4087	BRAND_W	6	800000
	1667113	07/01/21	14944	Bandung	Jawa Barat	P3344	BRAND_S	12	520000
	1666942	07/01/21	12957	Malang	Jawa Timur	P3254	BRAND_S	12	450000
	1666783	07/01/21	13880	Bogor	Jawa Barat	P1867	BRAND_J	12	520000
	1666933	07/01/21	16520	Yogyakarta	Yogyakarta	P2933	BRAND_R	2	1045000
	1666900	07/01/21	14534	Bandung	Jawa Barat	P4097	BRAND_W	1	1045000
	1666783	07/01/21	13880	Bogor	Jawa Barat	P2521	BRAND_P	8	1745000

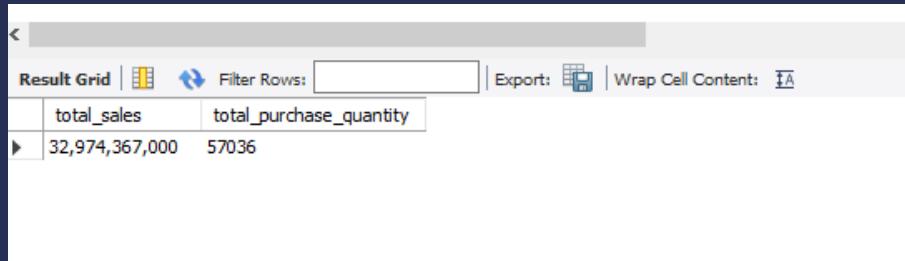
# TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

## Query Script:



```
Query 1      retail_raw_reduced1    retail_raw_reduced1 x
File | Edit | Insert | Database | Help | Dont Limit | 
1 •   SELECT format(sum(quantity*item_price),0) as total_sales, sum(quantity) as total_purchase_quantity
2     FROM javaretaildataraw.retail_raw_reduced1;
```

## Data query results:



total_sales	total_purchase_quantity
32,974,367,000	57036

"In sales from July to December 2021 in Java and Bali, a total of 57036 products were sold, with total sales of Rp. 32,974,367,000,- "

**TOTAL SALES AND PURCHASE QUANTITY**

# TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

## Query Script:

```
1  SELECT
2      province, sum(quantity*item_price) as total_sales, sum(quantity) as total_quantity
3  FROM javaretaildataraw.retail_raw_reduced1
4  group by province order by total_sales desc;
```

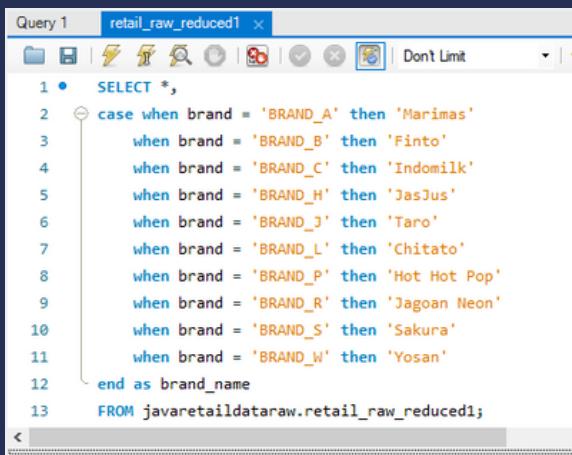
## Data query results:

	province	total_sales	total_quantity
▶	DKI Jakarta	14902763000	26852
	Jawa Barat	6128149000	9613
	Jawa Tengah	3485884000	5578
	Yogyakarta	3111241000	5529
	Jawa Timur	2649486000	4826
	Banten	1495632000	2764
	Bali	1201212000	1874

"DKI Jakarta and West Java have the most significant total sales among other provinces, accounting for 63.8% of total sales. While the provinces of Banten and Bali have the lowest total sales among other provinces."

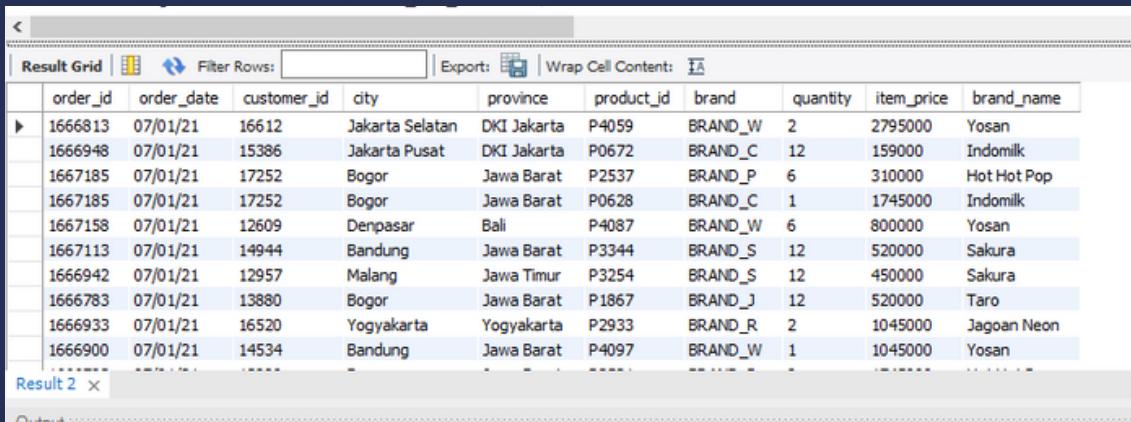
# TOTAL SALES AND PURCHASE QUANTITY BY PROVINCE

First we add the brand\_name data from the brand data based on the following table:



```
Query 1  retail_raw_reduced1 ×
SELECT *,  
case when brand = 'BRAND_A' then 'Marimas'  
when brand = 'BRAND_B' then 'Finto'  
when brand = 'BRAND_C' then 'Indomilk'  
when brand = 'BRAND_H' then 'JasJus'  
when brand = 'BRAND_J' then 'Taro'  
when brand = 'BRAND_L' then 'Chitato'  
when brand = 'BRAND_P' then 'Hot Hot Pop'  
when brand = 'BRAND_R' then 'Jagoan Neon'  
when brand = 'BRAND_S' then 'Sakura'  
when brand = 'BRAND_W' then 'Yosan'  
end as brand_name  
FROM javaretaildataraw.retail_raw_reduced1;
```

Data query results:



order_id	order_date	customer_id	city	province	product_id	brand	quantity	item_price	brand_name
1666813	07/01/21	16612	Jakarta Selatan	DKI Jakarta	P4059	BRAND_W	2	2795000	Yosan
1666948	07/01/21	15386	Jakarta Pusat	DKI Jakarta	P0672	BRAND_C	12	159000	Indomilk
1667185	07/01/21	17252	Bogor	Jawa Barat	P2537	BRAND_P	6	310000	Hot Hot Pop
1667185	07/01/21	17252	Bogor	Jawa Barat	P0628	BRAND_C	1	1745000	Indomilk
1667158	07/01/21	12609	Denpasar	Bali	P4087	BRAND_W	6	800000	Yosan
1667113	07/01/21	14944	Bandung	Jawa Barat	P3344	BRAND_S	12	520000	Sakura
1666942	07/01/21	12957	Malang	Jawa Timur	P3254	BRAND_S	12	450000	Sakura
1666783	07/01/21	13880	Bogor	Jawa Barat	P1867	BRAND_J	12	520000	Taro
1666933	07/01/21	16520	Yogyakarta	Yogyakarta	P2933	BRAND_R	2	1045000	Jagoan Neon
1666900	07/01/21	14534	Bandung	Jawa Barat	P4097	BRAND_W	1	1045000	Yosan

Save the query results as a csv file.

TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

TOP 5 MOST PROFITABLE TRANSACTIONS

# TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

After adding the brand name, we categorize the brand based on the brand name.

```
Query 1  retail_raw_reduced1 - Table  retail_raw_reduced1 x
1 •   SELECT *,
2     case when brand_name = 'Marimas' then 'Beverage'
3       when brand_name = 'Finto' then 'Beverage'
4       when brand_name = 'Indomilk' then 'Beverage'
5       when brand_name = 'JasJus' then 'Beverage'
6       when brand_name = 'Taro' then 'Snack'
7       when brand_name = 'Chitato' then 'Snack'
8       when brand_name = 'Sakura' then 'Snack'
9       when brand_name = 'Hot Hot Pop' then 'Sweets'
10      when brand_name = 'Jagoan Neon' then 'Sweets'
11      when brand_name = 'Yosan' then 'Sweets'
12    end as brand_category
13  FROM javaretaildataraw.retail_raw_reduced1;
```

Data query results:

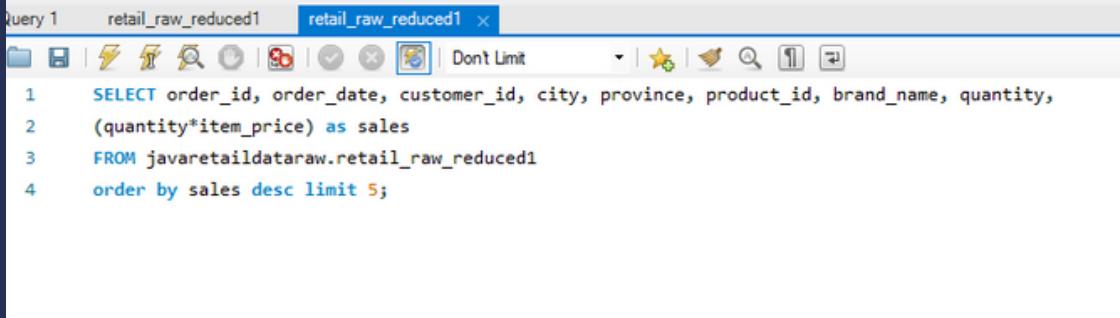
order_id	order_date	customer_id	city	province	product_id	brand	quantity	item_price	brand_name	brand_category
1666813	7/1/2021	16612	Jakarta Selatan	DKI Jakarta	P4059	BRAND_W	2	2795000	Yosan	Sweets
1666948	7/1/2021	15386	Jakarta Pusat	DKI Jakarta	P0672	BRAND_C	12	159000	Indomilk	Beverage
1667185	7/1/2021	17252	Bogor	Jawa Barat	P2537	BRAND_P	6	310000	Hot Hot Pop	Sweets
1667185	7/1/2021	17252	Bogor	Jawa Barat	P0628	BRAND_C	1	1745000	Indomilk	Beverage
1667158	7/1/2021	12609	Denpasar	Bali	P4087	BRAND_W	6	800000	Yosan	Sweets
1667113	7/1/2021	14944	Bandung	Jawa Barat	P3344	BRAND_S	12	520000	Sakura	Snack
1666942	7/1/2021	12957	Malang	Jawa Timur	P3254	BRAND_S	12	450000	Sakura	Snack
1666783	7/1/2021	13880	Bogor	Jawa Barat	P1867	BRAND_J	12	520000	Taro	Snack
1666933	7/1/2021	16520	Yogyakarta	Yogyakarta	P2933	BRAND_R	2	1045000	Jagoan Neon	Sweets

Also save the query results as a csv file.

## TOP 5 MOST PROFITABLE TRANSACTIONS

# TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

## Query Script:



```
Query 1    retail_raw_reduced1    retail_raw_reduced1 x
Dont Limit
1  SELECT order_id, order_date, customer_id, city, province, product_id, brand_name, quantity,
2  (quantity*item_price) as sales
3  FROM javaretaildataraw.retail_raw_reduced1
4  order by sales desc limit 5;
```

## Data query results:



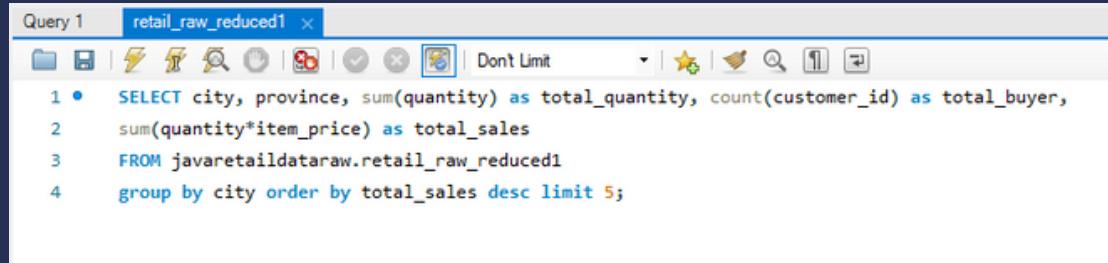
order_id	order_date	customer_id	city	province	product_id	brand_name	quantity	sales
1708711	10/30/21	16684	Jakarta Selatan	DKI Jakarta	P2968	Jagoan Neon	120	461280000
1690771	09/11/21	17450	Bogor	Jawa Barat	P3255	Sakura	152	272080000
1702162	10/15/21	17450	Bogor	Jawa Barat	P4009	Yosan	224	253568000
1722856	11/28/21	17450	Bogor	Jawa Barat	P4009	Yosan	224	253568000
1716589	11/15/21	18102	Yogyakarta	Yogyakarta	P1983	Chitato	120	239160000

"Three of the five most profitable transactions came from the same customer (customer\_id 17450). The most profitable transaction occurred on October 30, 2021; customer 16684 from Jakarta Selatan, DKI Jakarta, purchased 120 P2968 products from Jagoan Neon with a total purchase of Rp. 461.280.000,- "

## TOP 5 MOST PROFITABLE TRANSACTIONS

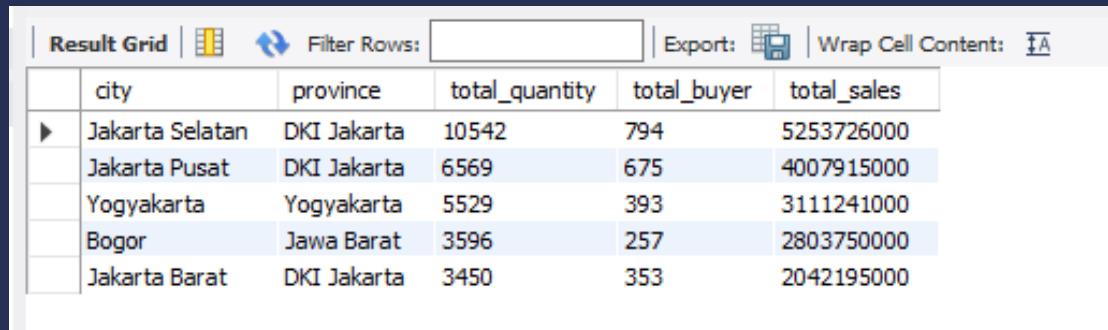
# TOTAL SALES AND PRODUCT QUANTITY PURCHASED BY BUYERS

## Query Script:



```
Query 1 | retail_raw_reduced1 x
          | Don't Limit
1 •   SELECT city, province, sum(quantity) as total_quantity, count(customer_id) as total_buyer,
2       sum(quantity*item_price) as total_sales
3       FROM javaretaildataraw.retail_raw_reduced1
4       group by city order by total_sales desc limit 5;
```

## Data query results:



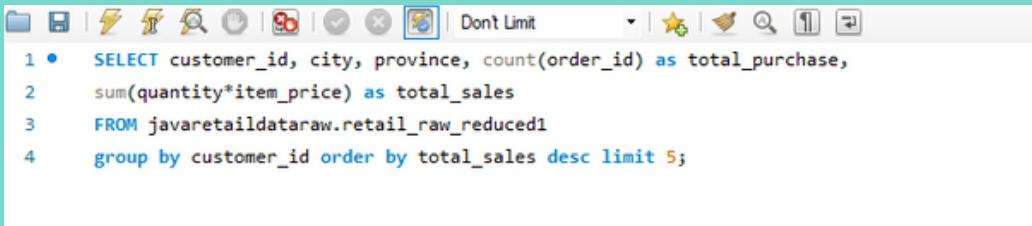
	city	province	total_quantity	total_buyer	total_sales
▶	Jakarta Selatan	DKI Jakarta	10542	794	5253726000
	Jakarta Pusat	DKI Jakarta	6569	675	4007915000
	Yogyakarta	Yogyakarta	5529	393	3111241000
	Bogor	Jawa Barat	3596	257	2803750000
	Jakarta Barat	DKI Jakarta	3450	353	2042195000

"Jakarta Selatan became the city with the highest total sales revenue with total sales of Rp. 5.253.726.000,- which came from the sale of 10542 products from 794 buyers. Jakarta Pusat and Yogyakarta occupy the second and third positions with total sales revenue of Rp. 4.007.915.000,- and Rp. 3.111.251.000,- ."

## TOP 5 MOST PROFITABLE CITY

# TOP 5 BUYERS WITH THE HIGHEST PURCHASE SALES

## Query Script:



```
1 •  SELECT customer_id, city, province, count(order_id) as total_purchase,
2     sum(quantity*item_price) as total_sales
3     FROM javaretaildataraw.retail_raw_reduced1
4     group by customer_id order by total_sales desc limit 5;
```

## Data query results:



	customer_id	city	province	total_purchase	total_sales
▶	17450	Bogor	Jawa Barat	7	1152928000
	16684	Jakarta Selatan	DKI Jakarta	5	784768000
	18102	Yogyakarta	Yogyakarta	5	601742000
	17511	Tangerang	Banten	16	489846000
	16029	Surakarta	Jawa Tengah	6	481116000

"Of the five customers, the most significant purchase sales came from the provinces of Banten, DKI Jakarta, Jawa Barat, Jawa Tengah, and Yogyakarta. The customer with ID 17450 from Bogor, Jawa Barat became the customer with the most significant number of purchase sales with a sales value of Rp. 1.152.928.000,- which comes from 7 product orders."

# TOP 5 BUYERS WITH THE HIGHEST PURCHASE QUANTITY

## Query Script:

```
1 •   SELECT customer_id, city, province, count(order_id) as total_purchase,  
2      sum(quantity) as total_quantity  
3  FROM javaretaildataraw.retail_raw_reduced1  
4 group by customer_id order by total_quantity desc limit 5;
```

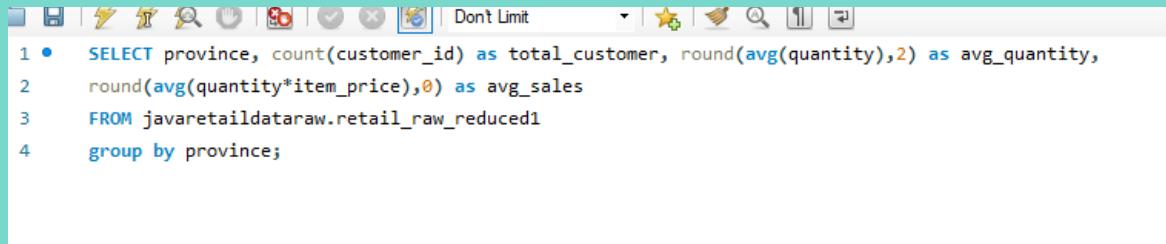
## Data query results:

	customer_id	city	province	total_purchase	total_quantity
▶	16684	Jakarta Selatan	DKI Jakarta	5	1120
	16422	Yogyakarta	Yogyakarta	6	1066
	17450	Bogor	Jawa Barat	7	1022
	16029	Surakarta	Jawa Tengah	6	984
	17511	Tangerang	Banten	16	906

"Of the five customers, the most significant purchase sales came from the provinces of Banten, DKI Jakarta, Jawa Barat, Jawa Tengah, and Yogyakarta. The customer with ID 16684 from Jakarta Selatan, DKI Jakarta became the customer with the most purchase quantity with the number of products purchased as many as 1120 pieces from 5 orders."

# AVERAGE OF SALES AND PURCHASE QUANTITY ON TOTAL CUSTOMERS BASED ON PROVINCE

## Query Script:



```
1 •  SELECT province, count(customer_id) as total_customer, round(avg(quantity),2) as avg_quantity,
2    round(avg(quantity*item_price),0) as avg_sales
3    FROM javaretaildataraw.retail_raw_reduced1
4    group by province;
```

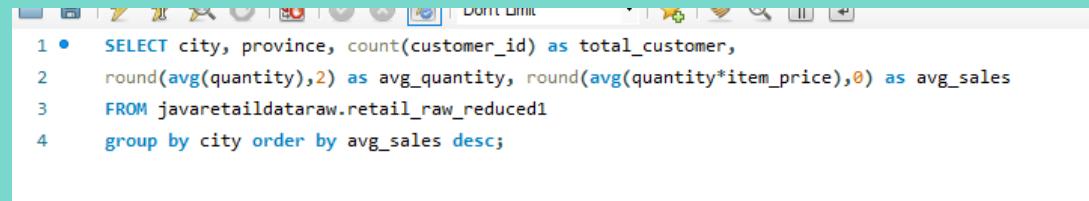
## Data query results:

	province	total_customer	avg_quantity	avg_sales
▶	DKI Jakarta	2552	10.52	5839641
	Jawa Barat	824	11.67	7437074
	Bali	124	15.11	9687194
	Jawa Timur	398	12.13	6657000
	Yogyakarta	393	14.07	7916644
	Jawa Tengah	457	12.21	7627755
	Banten	252	10.97	5935048

"Bali is the province with the largest average sales and purchase quantity per person, with an average sales value of Rp. 9,687.194,- / customer and a purchase quantity of 15.11 products per customer. DKI Jakarta has the highest number of customers, but the average sales and purchase quantity per person are the lowest among other provinces."

## AVERAGE OF SALES AND PURCHASE QUANTITY ON TOTAL CUSTOMERS BASED ON CITY

### Query Script:



```
1 •  SELECT city, province, count(customer_id) as total_customer,
2      round(avg(quantity),2) as avg_quantity, round(avg(quantity*item_price),0) as avg_sales
3      FROM javaretaildataraw.retail_raw_reduced1
4      group by city order by avg_sales desc;
```

### Data query results:

	city	province	total_customer	avg_quantity	avg_sales
▶	Bogor	Jawa Barat	257	13.99	10909533
	Purwokerto	Jawa Tengah	78	19.88	10752154
	Denpasar	Bali	122	15.27	9723664
	Yogyakarta	Yogyakarta	393	14.07	7916644
	Semarang	Jawa Tengah	90	13.48	7823389
	Ubud	Bali	2	5.50	7462500
	Surabaya	Jawa Timur	100	12.94	6819170
	Surakarta	Jawa Tengah	289	9.74	6723567
	Jakarta Selatan	DKI Jakarta	794	13.28	6616783

"Bogor has the highest average sales per person, with Rp. 10.909.533,-/customer; while Purwokerto is the city with the highest average purchase quantity per person with 19.88 products/customers. South Jakarta, the city with the highest number of customers, is ranked 9th (Rp.6.616.783,-/customer) in average sales per person and 6th (13.28 product/customer) in the average purchase quantity per person."

# TOTAL OF SALES AND PURCHASE QUANTITY BASED ON THE PRODUCT BRAND

## Query Script:

```
1 •  SELECT brand_name, brand_category, sum(quantity) as total_quantity,  
2      sum(quantity*item_price) as total_sales  
3  FROM javaretaildataraw.retail_raw_reduced1  
4 group by brand_name order by total_sales desc;
```

## Data query results:

	brand_name	brand_category	total_quantity	total_sales
▶	Sakura	Snack	9645	5698822000
	Jagoan Neon	Permen	5316	4666712000
	Hot Hot Pop	Permen	10130	4130269000
	Yosan	Permen	5609	3432990000
	Taro	Snack	4926	3240858000
	Indomilk	Minuman	5366	2871852000
	Marimas	Minuman	5752	2688157000
	Chitato	Snack	3090	2241572000
	Finto	Minuman	3964	2094474000
	JasJus	Minuman	3238	1908661000

"Sakura became the brand with the largest number of purchase sales, amounting to Rp.5,698,822,000. Meanwhile, Hot Hot Pop is the brand with the largest purchase quantity among other brands, with 10130 products."

## TOTAL OF SALES AND PURCHASE QUANTITY BASED ON THE BRAND CATEGORY

### Query Script:

```
1 •  SELECT brand_category, sum(quantity) as total_quantity,  
2      sum(quantity*item_price) as total_sales  
3  FROM javaretaildataraw.retail_raw_reduced1  
4  group by brand_category order by total_sales desc;
```

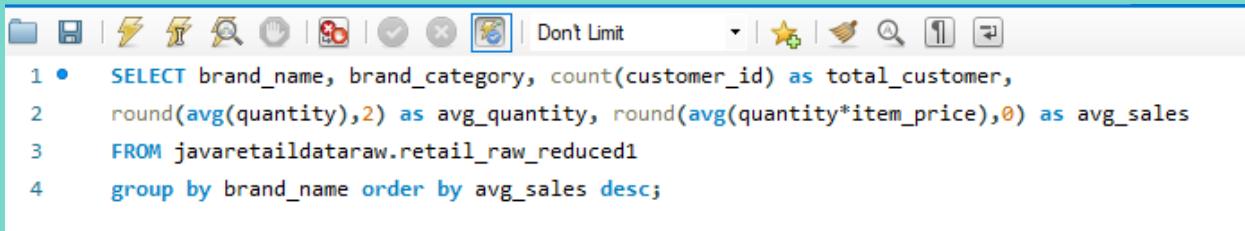
### Data query results:

	brand_category	total_quantity	total_sales
▶	Permen	21055	12229971000
	Snack	17661	11181252000
	Minuman	18320	9563144000

"Sweets is the most purchased product category by customers with a total purchase quantity of 21055 products and has the largest purchase sales, Rp. 12,229,971,000."

# AVERAGE OF SALES AND PURCHASE QUANTITY ON TOTAL CUSTOMER BASED ON THE PRODUCT BRAND

## Query Script:



```
1 •  SELECT brand_name, brand_category, count(customer_id) as total_customer,
2      round(avg(quantity),2) as avg_quantity, round(avg(quantity*item_price),0) as avg_sales
3  FROM javaretaildataraw.retail_raw_reduced1
4  group by brand_name order by avg_sales desc;
```

## Data query results:

brand_name	brand_category	total_customer	avg_quantity	avg_sales
Taro	Snack	334	14.75	9703168
Yosan	Permen	385	14.57	8916857
Jagoan Neon	Permen	627	8.48	7442922
Marimas	Minuman	427	13.47	6295450
Hot Hot Pop	Permen	665	15.23	6210931
Finto	Minuman	344	11.52	6088587
Chitato	Snack	374	8.26	5993508
JasJus	Minuman	319	10.15	5983263
Sakura	Snack	989	9.75	5762206
Indomilk	Minuman	536	10.01	5357933

"The Taro snack brand has the largest average purchase sales value per person, which is Rp. 9.073.168 / customer, while the Hot Hot Pop candy brand has the largest average purchase quantity among other brands, which is 15.24 products/customer."

## AVERAGE OF SALES AND PURCHASE QUANTITY ON TOTAL CUSTOMER BASED ON THE BRAND CATEGORY

### Query Script:

```
1 •  SELECT brand_category, count(customer_id) as total_customer,
2      round(avg(quantity),2) as avg_quantity, round(avg(quantity*item_price),0) as avg_sales
3      FROM javaretaildatabaraw.retail_raw_reduced1
4      group by brand_category order by avg_sales desc;
```

### Data query results:

	brand_category	total_customer	avg_quantity	avg_sales
▶	Permen	1677	12.56	7292767
	Snack	1697	10.41	6588834
	Minuman	1626	11.27	5881392

"Sweets products have the highest average purchase sales and quantity per person compared to other product categories, which is Rp. 7,292,767 / customer from an average of 12,56 products / customer."

# TOTAL SALES AND PURCHASE QUANTITY BY MONTH

## Query Script:

```
1 •  SELECT
2     month(order_date) as months, count(distinct customer_id) as total_customer, sum(item_price*quantity) as total_sales,
3     sum(quantity) as total_quantity
4   FROM javaretaildataraw.retail_raw_reduced1
5   group by months;
```

## Data query results:

	months	total_customer	total_sales	total_quantity
▶	7	349	3524041000	6437
	8	372	4452923000	8122
	9	308	3947002000	6959
	10	547	6719937000	11195
	11	529	6182229000	10812
	12	688	8148235000	13511

"The sales graph from July to December 2021 shows a positive trend, followed by growth in the number of customers and the number of products sold. The highest sales occurred in December, with total sales of Rp. 8,148,235,000,- which came from selling 13,511 products to 688 customers."

# AVERAGE OF SALES AND PURCHASE QUANTITY ON TOTAL CUSTOMER BASED ON THE BRAND CATEGORY

## Query Script:

```
1  SELECT
2    month(days) as months, brand_category,
3    count(distinct customer_id) as total_customer, sum(item_price*quantity) as total_sales,
4    sum(quantity) as total_quantity
5  FROM javaretaildataraw.retail_raw_reduced1
6  group by months, brand_category order by brand_category;
```

## Data query results:

	months	brand_category	total_customer	total_sales	total_quantity
▶	7	Minuman	142	949765000	2034
	8	Minuman	138	1191756000	2719
	9	Minuman	119	933537000	2368
	10	Minuman	244	1946558000	3380
	11	Minuman	265	2049842000	3495
	12	Minuman	331	2491686000	4324
	7	Permen	162	1164830000	2069
	8	Permen	162	1469250000	2594
	9	Permen	124	1401424000	2405
	10	Permen	238	2628481000	4175
	11	Permen	245	2554121000	4858
	12	Permen	346	3011865000	4954
	7	Snack	158	1409446000	2334
	8	Snack	194	1791917000	2809
	9	Snack	157	1612041000	2186
	10	Snack	235	2144898000	3640
	11	Snack	213	1578266000	2459
	12	Snack	306	2644684000	4233

"Sales of snack products had the most sales among other brand categories from July to September 2021. Meanwhile, sweets products had the most sales compared to other brand categories from October to December 2021."

# RECOMMENDATIONS

1.

IMPROVING MARKETING AND PROMOTION SYSTEMS IN THE PROVINCES OF BANTEN AND BALI

2.

GIVING GIFT VOUCHERS TO 5 CUSTOMERS WITH THE HIGHEST TOTAL NUMBER OF PURCHASES IN THE JULY-DECEMBER 2021 RANGE

3.

PROVIDING PRODUCT DISCOUNTS IN DECEMBER, LIKE CHRISTMAS DISCOUNTS, WEEKEND DISCOUNTS, ETC.

4.

PROVIDE DISCOUNTS ON SALES OF SAKURA, JAGOAN NEON, AND HOT-HOT POP BRANDS FOR THE NEXT PROMOTIONAL CAMPAIGN.

# **THANK YOU**

**Lets Linked Up!**

**LINKEDIN**

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