

Task 2:

Walmart sales

analysis

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PROBLEM STATEMENT

1. Retrieve all columns for sales made in a specific branch (e.g., Branch 'A').
2. Find the total sales for each product line.
3. List all sales transactions where the payment method was 'Cash'.
4. Calculate the total gross income generated in each city.
5. Find the average rating given by customers in each branch.
6. Determine the total quantity of each product line sold.
7. List the top 5 products by unit price.
8. Find sales transactions with a gross income greater than 30.
9. Retrieve sales transactions that occurred on weekends.
10. Calculate the total sales and gross income for each month.
11. Find the number of sales transactions that occurred after 6 PM.
12. List the sales transactions that have a higher total than the average total of all transactions.
13. Calculate the cumulative gross income for each branch by date.
15. Find the total cogs for each customer type in each city.



Dataset:

- **The dataset consists of the following columns:**
- **Invoice_ID:** Unique identifier for each invoice.
- **Branch:** Branch of the store where the sale took place.
- **City:** City where the store branch is located.
- **Customer_type:** Type of customer (e.g., Member, Normal).
- **Gender:** Gender of the customer.
- **Product_line:** Category of the product sold.
- **Unit_price:** Price per unit of the product.
- **Quantity:** Quantity of the product sold.
- **Tax_5%:** Tax applied on the sale.
- **Total:** Total amount of the sale.
- **Date:** Date of the transaction.
- **Time:** Time of the transaction.
- **Payment:** Payment method used (e.g., Cash, Credit Card).
- **cogs:** Cost of goods sold.
- **gross_margin_percentage:** Gross margin percentage.
- **gross_income:** Gross income from the sale.
- **Rating:** Customer rating for the purchase.



Walmart Sales Analysis-1

```
66  
67 --- 1. Retrieve all columns for sales made in a specific branch (e.g., Branch 'A').-----  
68  
69 SELECT * FROM walmart  
70 WHERE branch = 'A';  
71  
72
```

Data Output Messages Notifications

	invoice_id [PK] character varying (15)	branch character varying (5)	city character varying (15)	customer_type character varying (10)	gender character varying (10)	product_line character varying (50)	unit_price double precision	quantity integer	tax_5p double
1	750-67-8428	A	Yangon	Member	Female	Health and beauty	74.69	7	
2	631-41-3108	A	Yangon	Normal	Male	Home and lifestyle	46.33	7	
3	123-19-1176	A	Yangon	Member	Male	Health and beauty	58.22	8	
4	373-73-7910	A	Yangon	Normal	Male	Sports and travel	86.31	7	
5	355-53-5943	A	Yangon	Member	Female	Electronic accessories	68.84	6	
6	665-32-9167	A	Yangon	Member	Female	Health and beauty	36.26	2	
7	245-64-0515	A	Yangon	Normal	Female	Electronic accessories	46.05	5	

Total rows: 340 of 340 Query complete 00:00:00.626 Ln 77, Col 1

Walmart Sales Analysis-2

```
12  
73 --- 2. Find the total sales for each product line.---  
74 ✓ SELECT product_line, SUM(total) AS total_sales  
75 FROM walmart  
76 GROUP BY product_line;  
77  
78
```

Data Output Messages Notifications

	product_line character varying (50) 🔒	total_sales double precision 🔒
1	Fashion accessories	54306.030000000006
2	Electronic accessories	54337.640000000001
3	Health and beauty	49193.840000000002
4	Food and beverages	56144.9600000000014
5	Sports and travel	55123.000000000001
6	Home and lifestyle	53861.960000000003

Walmart Sales Analysis-3

```
79
80 --- 3. List all sales transactions where the payment method was 'Cash'.-----
81
82 v SELECT * FROM walmart
83 WHERE payment = 'Cash';
84
85
```

Data Output Messages Notifications

	product_line character varying (50)	unit_price double precision	quantity integer	tax_5percent double precision	total double precision	date date	time time without time zone	payment character varying (15)	cogs double precision	gross_ double
1	Electronic accessories	15.28	5	3.82	80.22	2019-08-03	10:29:00	Cash	76.4	
2	Electronic accessories	25.51	4	5.1	107.14	2019-09-03	17:03:00	Cash	102.04	
3	Health and beauty	71.38	10	35.69	749.49	2019-03-29	19:21:00	Cash	713.8	
4	Sports and travel	93.72	6	28.12	590.44	2019-01-15	16:19:00	Cash	562.32	
5	Fashion accessories	33.52	1	1.68	35.2	2019-08-02	15:31:00	Cash	33.52	
6	Food and beverages	88.36	5	22.09	463.89	2019-01-25	19:48:00	Cash	441.8	
7	Health and beauty	24.00	0	11.2	225.21	2019-02-15	15:26:00	Cash	224.01	

Walmart Sales Analysis-4

```
85 --- 4. Calculate the total gross income generated in each city. -----
86
87 ✓ SELECT city, SUM(gross_income) AS total_gross_income
88 FROM walmart
89 GROUP BY city;
90
```

Data Output Messages Notifications

	city character varying (15) 🔒	total_gross_income double precision 🔒
1	Yangon	5057.359999999999
2	Naypyitaw	5265.3300000000003
3	Mandalay	5057.3599999999995

Walmart Sales Analysis-5

--- 5. Find the average rating given by customers in each branch. -----

```
SELECT branch, AVG(rating) AS average_rating  
FROM walmart  
GROUP BY branch;
```

Data Output Messages Notifications

	branch character varying (5)	average_rating double precision
1	A	7.027058823529413
2	B	6.8180722891566266
3	C	7.072865853658538

Walmart Sales Analysis-6

Functions
Materialized Views
Operators
Procedures
Sequences
Tables (1)
walmart
Columns (17)
Constraints
Indexes
RLS Policies
Rules
Triggers
Trigger Functions
Types
Views
Descriptions
Roles

```
98  
99 --- 6. Determine the total quantity of each product line sold.-----  
100  
101 ✓ SELECT product_line, SUM(quantity) AS total_quantity_sold  
102 FROM walmart  
103 GROUP BY product_line;  
104
```

Data Output Messages Notifications

	product_line character varying (50)	total_quantity_sold bigint
1	Fashion accessories	902
2	Electronic accessories	971
3	Health and beauty	854
4	Food and beverages	952
5	Sports and travel	920
6	Home and lifestyle	911

Walmart Sales Analysis-7

```
105
106 ---- 7. List the top 5 products by unit price. -----
107
108 ✓ SELECT *
109 FROM walmart
110 ORDER BY unit_price DESC
111 LIMIT 5;
112
```

Data Output Messages Notifications

SQL

	product_line character varying (50)	unit_price double precision	quantity integer	tax_5percent double precision	total double precision	date date	time time without time zone	payment character varying (15)	cogs double precision	gross_ma double pr
1	Sports and travel	99.96	9	44.98	944.62	2019-09-03	17:26:00	Credit card	899.64	
2	Health and beauty	99.96	7	34.99	734.71	2019-01-23	10:33:00	Cash	699.72	
3	Home and lifestyle	99.92	6	29.98	629.5	2019-03-24	13:33:00	Ewallet	599.52	
4	Fashion accessories	99.89	2	9.99	209.77	2019-02-26	11:48:00	Ewallet	199.78	
5	Health and beauty	99.83	6	29.95	628.93	2019-04-03	15:02:00	Ewallet	598.98	

Walmart Sales Analysis-8

```
113
114 ---- 8. Find sales transactions with a gross income greater than 30.----
115
116 v SELECT *
117 FROM walmart
118 WHERE gross_income > 30;
119
---
```

Data Output Messages Notifications

	ix_5percent double precision	total double precision	date date	time time without time zone	payment character varying (15)	cogs double precision	gross_margin_percentage double precision	gross_income double precision	rating double precision
1	30.21	634.38	2019-08-02	10:37:00	Ewallet	604.17	4.76	30.21	5.3
2	36.78	772.38	2019-02-24	11:38:00	Ewallet	735.6	4.76	36.78	8
3	35.69	749.49	2019-03-29	19:21:00	Cash	713.8	4.76	35.69	5.7
4	35.13	737.76	2019-01-28	12:43:00	Cash	702.63	4.76	35.13	4.5
5	33.51	703.75	2019-10-01	14:49:00	Cash	670.24	4.76	33.51	5.1
6	39.48	829.08	2019-04-03	20:39:00	Cash	789.6	4.76	39.48	7.6
7	41.22	867.62	2019-02-10	17:08:00	Ewallet	826.2	4.76	41.22	7.0

Walmart Sales Analysis-9

```
120
121 ----- 9. Retrieve sales transactions that occurred on weekends.-----
122 SELECT *
123 FROM walmart
124 WHERE EXTRACT(DOW FROM date::date) IN (0, 6);
125
126
127
128
```

Data Output Messages Notifications

SQL

	ix_5percent double precision	total double precision	date date	time time without time zone	payment character varying (15)	cogs double precision	gross_margin_percentage double precision	gross_income double precision	rating double precision
1	3.82	80.22	2019-08-03	10:29:00	Cash	76.4	4.76	3.82	9.6
2	16.22	340.53	2019-03-03	13:23:00	Credit card	324.31	4.76	16.22	7.4
3	23.29	489.05	2019-01-27	20:33:00	Ewallet	465.76	4.76	23.29	8.4
4	36.78	772.38	2019-02-24	11:38:00	Ewallet	735.6	4.76	36.78	8
5	2.9	60.82	2019-06-02	18:07:00	Ewallet	57.92	4.76	2.9	4.5
6	24.13	506.64	2019-11-03	11:03:00	Credit card	482.51	4.76	24.13	4.6
7	4.02	84.62	2019-11-03	15:20:00	Ewallet	80.6	4.76	4.02	4.4

Walmart Sales Analysis-10

```
126
127 ---- 10. Calculate the total sales and gross income for each month.-----
128
129 v SELECT
130     DATE_TRUNC('month', date::date) AS month,
131     SUM(total) AS total_sales,
132     SUM(gross_income) AS total_gross_income
133 FROM walmart
134 GROUP BY month
135 ORDER BY month;
136
```

Data Output Messages Notifications

	month timestamp with time zone 🔒	total_sales double precision 🔒	total_gross_income double precision 🔒
1	2019-01-01 00:00:00+05:30	86562.76	4122.22
2	2019-02-01 00:00:00+05:30	63169.8700000000024	3008.2100000000001
3	2019-03-01 00:00:00+05:30	72749.4000000000005	3464.3999999999999
4	2019-04-01 00:00:00+05:30	7957.6499999999998	378.960000000000004
5	2019-05-01 00:00:00+05:30	12798.7200000000001	609.49
6	2019-06-01 00:00:00+05:30	9612.2599999999998	457.7600000000000005
7	2019-07-01 00:00:00+05:30	11500.7200000000003	547.66

Walmart Sales Analysis-11

```
137
138 --- 11. Find the number of sales transactions that occurred after 6 PM.-----
139
140 ✓ SELECT COUNT(*) AS number_of_transactions_after_6pm
141 FROM walmart
142 WHERE "time"::time > '18:00:00';
143
144
145
```

Data Output Messages Notifications

number_of_transactions_after_6pm
bigint

1	279
---	-----

Walmart Sales Analysis-12

---- 12. List the sales transactions that have a higher total than the average total of all transactions. ----

```
SELECT *  
FROM walmart  
WHERE total > (SELECT AVG(total) FROM walmart);
```

Output Messages Notifications

product_line character varying (50)	unit_price double precision	quantity integer	tax_5percent double precision	total double precision	date date	time time without time zone	payment character varying (15)	cogs double precision	gross_profit double precision
Health and beauty	74.69	7	26.14	548.97	2019-05-01	13:08:00	Ewallet	522.83	26.14
Home and lifestyle	46.33	7	16.22	340.53	2019-03-03	13:23:00	Credit card	324.31	16.22
Health and beauty	58.22	8	23.29	489.05	2019-01-27	20:33:00	Ewallet	465.76	23.29
Sports and travel	86.31	7	30.21	634.38	2019-08-02	10:37:00	Ewallet	604.17	30.21
Electronic accessories	85.39	7	29.89	627.62	2019-03-25	18:30:00	Ewallet	597.73	29.89
Electronic accessories	68.84	6	20.65	433.69	2019-02-25	14:36:00	Ewallet	413.04	20.65
Home and lifestyle	72.56	10	26.70	772.20	2019-02-24	11:20:00	Ewallet	725.60	26.70

Walmart Sales Analysis-13

```
152  
153 ----- 13. Calculate the cumulative gross income for each branch by date.-----  
154  
155 v SELECT  
156     branch,  
157     date::date,  
158     SUM(gross_income) OVER (PARTITION BY branch ORDER BY date::date) AS cumulative_gross_income  
159 FROM walmart  
160 ORDER BY branch, date::date;  
161  
162  
163  
164 ----- 14. Find the total cogs for each customer type in each city.---
```

Data Output Messages Notifications



	branch character varying (5)	date date	cumulative_gross_income double precision
1	A	2019-01-01	112.91999999999999
2	A	2019-01-01	112.91999999999999
3	A	2019-01-01	112.91999999999999
4	A	2019-01-01	112.91999999999999
5	A	2019-01-01	112.91999999999999
6	A	2019-01-02	156.34999999999997
7	A	2019-01-02	156.34999999999997

Walmart Sales Analysis-14

----- 14. Find the total cogs for each customer type in each city.---

```
SELECT
  city,
  customer_type,
  SUM(cogs) AS total_cogs
FROM walmart
GROUP BY city, customer_type
ORDER BY city, customer_type;
```

Data Output Messages Notifications

	city character varying (15)	customer_type character varying (10)	total_cogs double precision
1	Mandalay	Member	51147.320000000014
2	Mandalay	Normal	49993.320000000001
3	Naypyitaw	Member	54172.650000000016
4	Naypyitaw	Normal	51130.879999999999
5	Yangon	Member	51083.309999999997
6	Yangon	Normal	50059.899999999994



THANK YOU