Sales Analysis

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🏢 <u>What Walmart Does</u>

Walmart operates a chain of hypermarkets, discount department stores, and grocery stores. Its mission is to help people save money and live better by offering low prices everyday on quality products.
🛍️ Products and Services ->

Walmart sells a wide variety of products, including:
- 🥦 Groceries – Fresh produce, dairy, bakery, frozen foods, beverages
- 👕 Clothing & Accessories – Apparel for men, women, and children
- 📱 Electronics – Smartphones, TVs, laptops, accessories
- 🛏️ Home & Furniture – Kitchenware, appliances, bedding, furniture
- 💄 Health & Beauty – Skincare, personal care, pharmacy services
- 🧸 Toys & Games – For all age groups, including seasonal specials
- 🚗 Automotive & Tools – Car accessories, tires, hardware tools
- 🛒 Online Services – E-commerce, home delivery, and pickup options

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Research on products

What are the various product categories offer?
What cities we ship our products ?

```sql
select product_line, count(product_line) from sales
 group by product_line;
select city, count(distinct city) from sales group by city;
```

Total Gross margin generated ?
Total Gross income generated ?

```sql
select product_line, SUM(gross_margin_pct) as
grossmarginpct from sales group by product_line;
select product_line, SUM(gross_inc) as grossincome
from sales group by product_line;
```

product_line	count(product_line)
Food and beverages	174
Health and beauty	151
Sports and travel	163
Fashion accessories	178
Home and lifestyle	160

city	count(distinct city)
Mandalay	1
Naypyitaw	1
Yangon	1

product_line	grossmarginpct
Food and beverages	828.571420670
Health and beauty	719.047612190
Sports and travel	776.190468788
Fashion accessories	847.619039536
Home and lifestyle	761.904754639

product_line	grossincome
Food and beverages	2673.5640
Health and beauty	2326.3990
Sports and travel	2568.3870
Fashion accessories	2585.9950
Home and lifestyle	2564.8530

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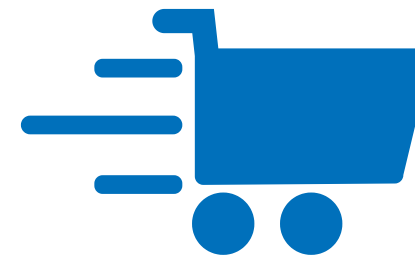
Average rating of each product category for
further quality checks ?
Total revenue of each month ?

Most sold product line in all the months ?
What month had the largest cogs?

```sql
select product_line, AVG(rating) as avgrating
from sales group by product_line;
select month_name, SUM(total) from sales
group by month_name;
```

```sql
select month_name, max(product_line) from sales
group by month_name;
SELECT month_name AS month, SUM(cogs) AS cogs
FROM sales GROUP BY month_name
ORDER BY cogs;
```

product_line	avgrating
Food and beverages	7.11322
Health and beauty	6.98344
Sports and travel	6.85951
Fashion accessories	7.02921
Home and lifestyle	6.83750

month_name	SUM(total)
March	108867.1500
January	116291.8680
February	95727.3765

month_name	max(product_line)
March	Sports and travel
January	Sports and travel
February	Sports and travel

month	cogs
March	103683.00
January	110754.16
February	91168.93

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.Fetch each product line and add a column showing "Good", "Bad". Good if its greater than average sales. Which branch sold more products than average product sold?

```sql
select product_line, case
when avg(quantity)>4 then "Good"
else "Bad" end as remark  from sales
group by product_line order by avg(quantity);
select branch, sum(quantity) from sales group by branch
HAVING SUM(quantity) > (SELECT AVG(quantity) FROM sales);
```

product_line	remark
Fashion accessories	Good
Food and beverages	Good
Sports and travel	Good
Health and beauty	Good
Electronic accessories	Good

branch	sum(quantity)
A	1849
C	1828
B	1795

What product line had the largest revenue?
What is the city with the largest revenue?

```sql
select product_line, sum(total) as total from sales
group by product_line order by total DESC;
select city, sum(total) as total from sales
group by city order by total DESC;
```

product_line	total
Food and beverages	56144.8440
Fashion accessories	54305.8950
Sports and travel	53936.1270
Home and lifestyle	53861.9130
Electronic accessories	53783.2365

city	total
Naypyitaw	110490.7755
Yangon	105861.0105
Mandalay	104534.6085

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Research on customers

How many unique customer types does the data have? How many unique payment methods does the data have?

```
select DISTINCT customer_type from sales;
select DISTINCT payment_method from sales;
```

customer_type
Normal
Member

payment_method
Credit card
Ewallet
Cash

What is the most common customer type? Which customer type buys the most?

```
SELECT customer_type, count(*) as count
FROM sales GROUP BY customer_type
ORDER BY count DESC;
select DISTINCT customer_type, sum(total) as total
from sales group by customer_type
order by total DESC;
```

customer_type	count
Member	499
Normal	496

customer_type	total
Member	163625.1015
Normal	157261.2930

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Which gender buys the most from us ?
How many customers are our prime members?

```sql
select gender, count(gender) as c_gender from sales
 group by gender order by c_gender DESC;
select customer_type, count(customer_type) as cc
from sales group by customer_type order by cc DESC;
```

gender	c_gender	customer_type	cc
Male	498	Member	499
Female	497	Normal	496

Which time of the day do customers give most ratings?
Average rating of each time of the day?

```sql
select time, max(rating) as r from sales group by time order by r DESC;
SELECT time_of_day, avg(rating) AS avg_rating
FROM sales GROUP BY time_of_day
ORDER BY avg_rating DESC;
```

time	r
15:01:00	9.9
13:58:00	9.9
12:09:00	9.9
17:26:00	9.9
19:40:00	9.9

time_of_day	avg_rating
Afternoon	7.02340
Morning	6.94474
Evening	6.90536

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Which time of the day do customers give most ratings per branch?

```sql
select time_of_day, avg(rating) as r from sales where branch="A" group by time_of_day order by r DESC;
select time_of_day, avg(rating) as r from sales where branch="B" group by time_of_day order by r DESC;
select time_of_day, avg(rating) as r from sales where branch="C" group by time_of_day order by r DESC;
```

time_of_day	r
Afternoon	7.18889
Morning	7.00548
Evening	6.87143

time_of_day	r
Morning	6.83793
Afternoon	6.81129
Evening	6.75102

time_of_day	r
Evening	7.09859
Afternoon	7.06667
Morning	6.97458

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Which day of the week has the best avg ratings?

```sql
select day_name, avg(rating) as r from sales
group by day_name order by r DESC;
```

day_name	r
Monday	7.13065
Friday	7.05507
Tuesday	7.00316
Sunday	6.98864
Saturday	6.90183

What is the city with the largest revenue?

```sql
select city, sum(total) revenue from sales
group by city order by revenue DESC;
```

city	revenue
Naypyitaw	110490.7755
Yangon	105861.0105
Mandalay	104534.6085

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Research on Sales

Number of sales made in each time of the day per weekday.

```sql
SELECT time_of_day,
    COUNT(total) AS total_sales
FROM sales
WHERE day_name = "Sunday"
GROUP BY time_of_day
ORDER BY total_sales DESC;
```

time_of_day	total_sales
Evening	58
Afternoon	52
Morning	22

Which of the customer types brings the most revenue?

```sql
select customer_type, sum(total) as total
from sales group by customer_type
order by total DESC;
```

customer_type	total
Member	163625.1015
Normal	157261.2930

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Which city has the largest tax percent/ VAT (Value Added Tax)?

```
select city, sum(VAT) tvat from sales
group by city order by tvat DESC;
```

city	tvat
Naypyitaw	5261.4655
Yangon	5041.0005
Mandalay	4977.8385

Total revenue incurred by each product line to identify the hero product

```
select product_line, sum(total) as tsales from sales
group by product_line order by tsales DESC;
```

product_line	tsales
Food and beverages	56144.8440
Fashion accessories	54305.8950
Sports and travel	53936.1270
Home and lifestyle	53861.9130
Electronic accessories	53783.2365

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Revenue bifurcation identification between genders based on product category for gender-specific marketing.

```sql
select gender, sum(total) as tsales from
sales group by gender
order by tsales DESC;
```

gender	tsales
Female	166390.9275
Male	154495.4670

Analysis Outcome 🛒

📊 Sales Analysis Insights

💸 Identify Best-Selling Products
 → Focus marketing efforts and inventory on top performers.
📉 Spot Low-Selling Products
 → Consider discounts, bundling, or discontinuing underperformers.
📅 Analyze Peak Sales Periods
 → Plan promotions around high-traffic days/months.
📍 Compare Sales by Location
 → Allocate stock and staff efficiently across stores.

🧍‍♂️♀️ Customer Analysis Insights

🎯 Customer Segmentation
 → Personalize offers based on age, gender, or location.
🔁 Frequency of Purchases
 → Launch loyalty programs to retain frequent buyers.
🛍️ Basket Analysis (What customers buy together)
 → Recommend combos or cross-sell during checkout.
📉 Identify Lost Customers
 → Launch re-engagement campaigns for inactive users.

📦 Product Analysis Insights

🏷️ Category Performance
 → Invest more in trending categories (e.g., electronics, groceries).
💰 Profit Margin Analysis
 → Promote high-margin items more aggressively.
📦 Inventory Turnover Rate
 → Improve supply chain for slow-moving stock.
⭐ Customer Reviews & Ratings
 → Improve or low-rated products.

Walmart ✳️