Here is the report that covers each answer for the questions using SQL.

Sales Performance Analysis

1. Total revenue and profit

   Total Revenue: 11,079,328.20 (~1.1crore rupees)
   Total Profit: 1,039,928.20 (~ 10.4 lakh rupees)
   Profit Margin: ~9.39% (Indicating a good profit margin)

2. Revenue and profit by year

 | | years
numeric | total_revenue
numeric | total_profit
numeric |
   |---|---|---|---|
   | 1 | 2022 | 5475541.30 | 517071.30 |
   | 2 | 2023 | 5603786.90 | 522856.90 |

   - Here, we can see that the total revenue jumped from 5.48M rupees to 5.6M rupees which is around 2.34 % growth, which is not a significant growth

   - The profit also increased by around 1.12 % which is very lesser than the revenue growth.

3. Region with highest revenue and profit

	region character varying (20)	revenue numeric
1	West	3467409.60
2	East	3257983.80
3	Central	2387881.20
4	South	1966053.60

	region character varying (20)	total_profit numeric
1	West	305289.60
2	East	295773.80
3	Central	236121.20
4	South	202743.60

   - The west region has a revenue of 3.47M which is a major contributor of 31.29 % of total revenue.
   - The west region also has the highest profit of 3.05 lakhs which contributes to 30.88 % of total profits.

4. Trends over month for revenue and profits

   ### Revenue
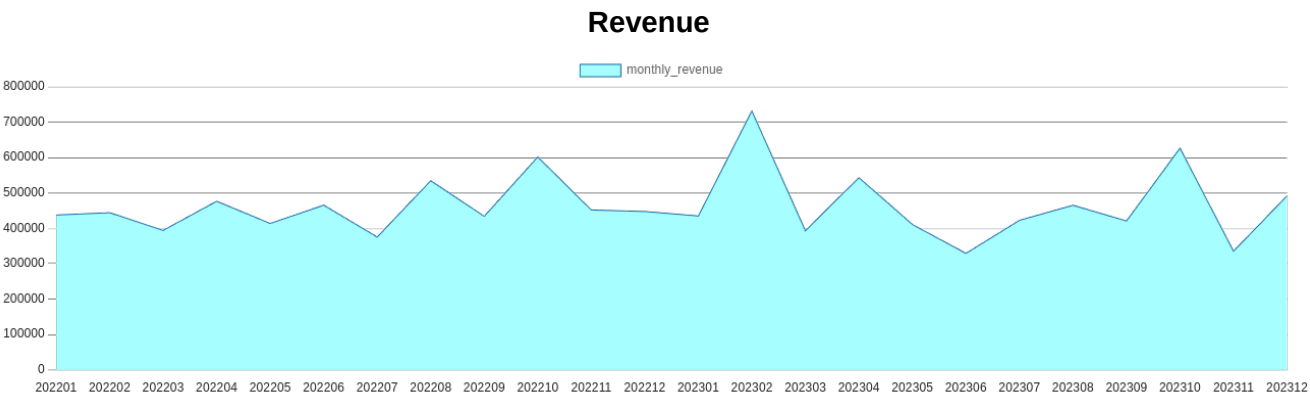
From the above image, we can see that the second month of the year 2023 has the highest sales of around 7.13 lakhs rupees.
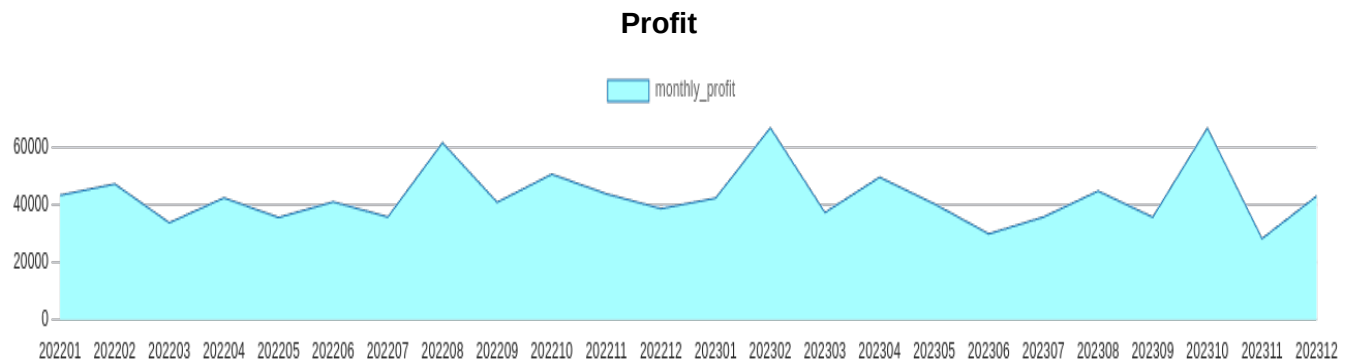
Profit

From the above image, we can see that the second month of the year 2023 has the highest profit of around 67 thousand rupees.

Product Performance Analysis

1. Top selling products with units sold, category and sub-category

	product_id character varying (50)	category character varying (20)	sub_category character varying (20)	total_units_sold bigint	revenue numeric
1	TEC-CO-10004722	Technology	Copiers	20	245056.00
2	OFF-BI-10000545	Office Supplies	Binders	48	163777.70
3	TEC-MA-10002412	Technology	Machines	6	130406.40
4	FUR-CH-10002024	Furniture	Chairs	39	120090.70
5	TEC-PH-10001459	Technology	Phones	39	113041.90

- You can see the Product 1 and Product 3 gained high revenue with less units sold.This suggests **high price per unit** and possibly **high-profit margins**.Those are under 'Technology' category.
- Product 2 under office Supplies (Binders) **had the highest quantity sold** but ranked **below Copiers in revenue**.This suggests **low-margin, high-volume sales strategy**.

2. Most profitable products

	product_id character varying (50)	total_profit numeric
1	TEC-CO-10004722	24816.00
2	TEC-MA-10002412	21746.40
3	OFF-BI-10000545	17867.70
4	TEC-CO-10001449	15948.00
5	FUR-CH-10002024	13930.70

You can see the top 5 profitable products with their ID's above in the table.

3. Best selling product's categories

	category character varying (20)	revenue numeric
1	Technology	3934910.70
2	Furniture	3720742.40
3	Office Supplies	3423675.10

Technology category holds the highest revenue(~3.9M) that holds 1st rank that contributes about of total revenue. The categories 'Furniture ' and 'Office supplies' holds 2nd and 3rd rank that has similar revenue but a little low compared to Technology category.

4. Best selling product's subcategories

	category character varying (20)	sub_category character varying (20)	count bigint	revenue numeric
1	Furniture	Chairs	617	1604415.70
2	Technology	Phones	889	1568578.50
3	Furniture	Tables	319	1102172.20
4	Office Supplies	Storage	846	1061125.30
5	Office Supplies	Binders	1523	976402.80

- **Furniture (Chairs & Tables) dominate high-ticket purchases**, making up a large portion of total revenue.
- **Technology (Phones)** is a fast-moving product with consistent high sales.
- **Office Supplies (Storage & Binders)** rely on bulk purchases to drive revenue.

Discount and Pricing Analysis
1. How do discounts affect sales ?

	discount_percent integer	orders_count bigint	revenue_generated numeric
1	5	2432	2850085.50
2	3	2542	2825794.30
3	4	2497	2736182.40
4	2	2523	2667266.00

The 5% and 3% gained around ~2.8M revenue. So, High discount gained high revenue and low revenue didn't gain high revenue.

2. Profit margin for each category

	category character varying (20)	total_profit numeric	avg_profit_margin numeric
1	Technology	379720.70	8.27625027841796589792
2	Furniture	342782.40	7.32177723048156464674
3	Office Supplies	317425.10	3.56051662356607593658

The Technology and furniture has higher profit margins ~8.2% and ~7.3%
Where office supplies are low in profit margins.

Customer Order Analysis

1. What is the order distribution by customer segment?

	segment character varying (20) 🔒	total_orders bigint 🔒	total_revenue numeric 🔒
1	Consumer	5191	5607860.10
2	Corporate	3020	3394916.10
3	Home Office	1783	2076552.00

The major customer here is the Consumer who is the highest contributor in both the revenue and units sold.

Time based Trends

1. Which day of the week has higher units sold and revenue ?

	day_name text 🔒	total_orders bigint 🔒	revenue numeric 🔒
1	Saturday	1451	1716203.80
2	Monday	1402	1657557.60
3	Sunday	1400	1650734.00
4	Tuesday	1482	1642150.80
5	Friday	1407	1520657.90
6	Wednesday	1414	1483662.90
7	Thursday	1438	1408361.20

Weekends (saturday and sunday) generated the highest revenue, while Monday and Tuesday are next to the weekends generating higher revenue.