

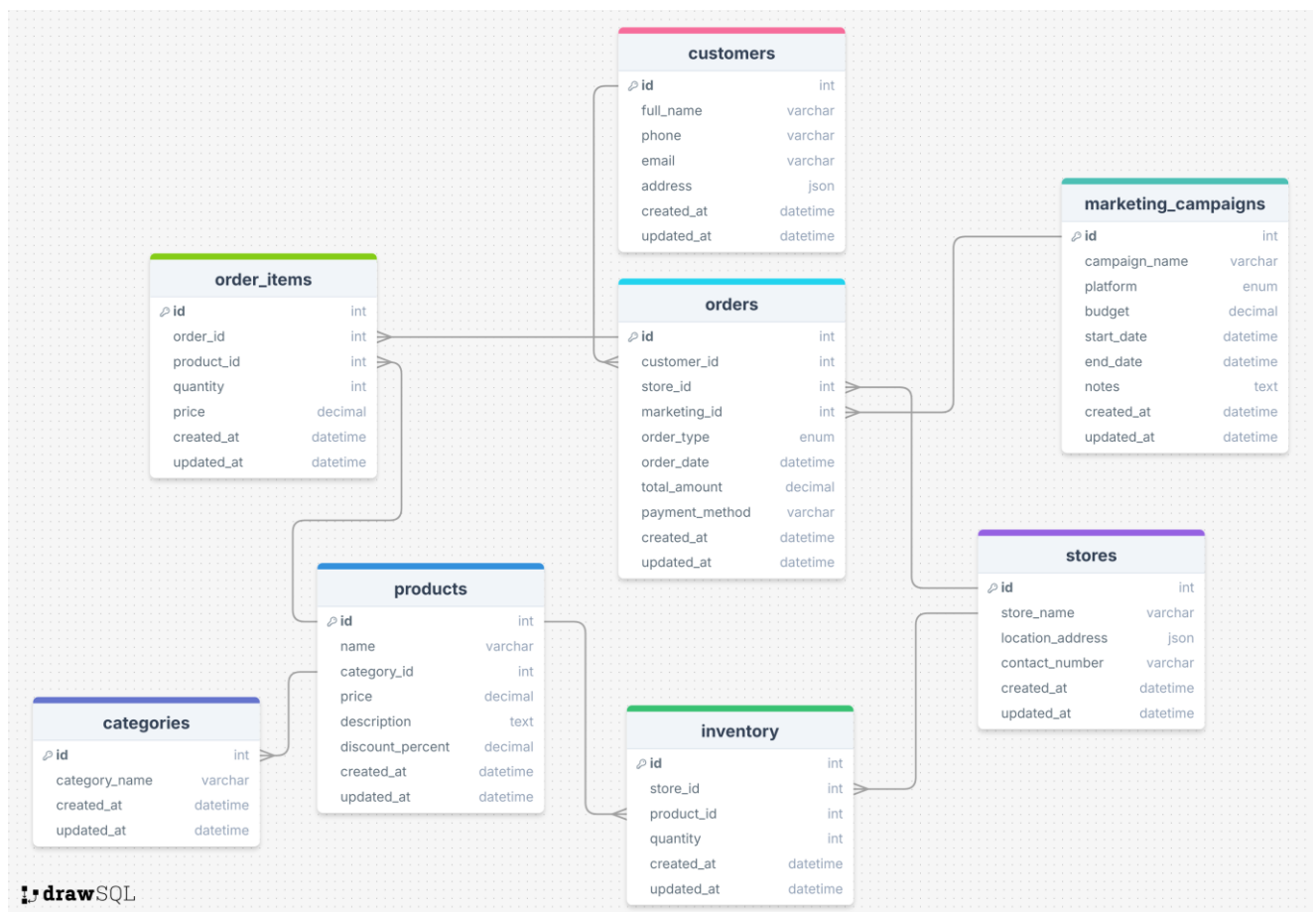
# Retail Shop Case Study & Business Insights by MySQL



## Overview

SK Mart is a retail chain in Dhaka with outlets in Gulshan, Dhanmondi, Banani, and Uttara. It sells groceries and essentials both online and offline, accepting various payment methods. The company promotes through digital and offline channels and seeks to improve operations by analyzing sales, customers, products, and marketing impact.

## ER Diagram

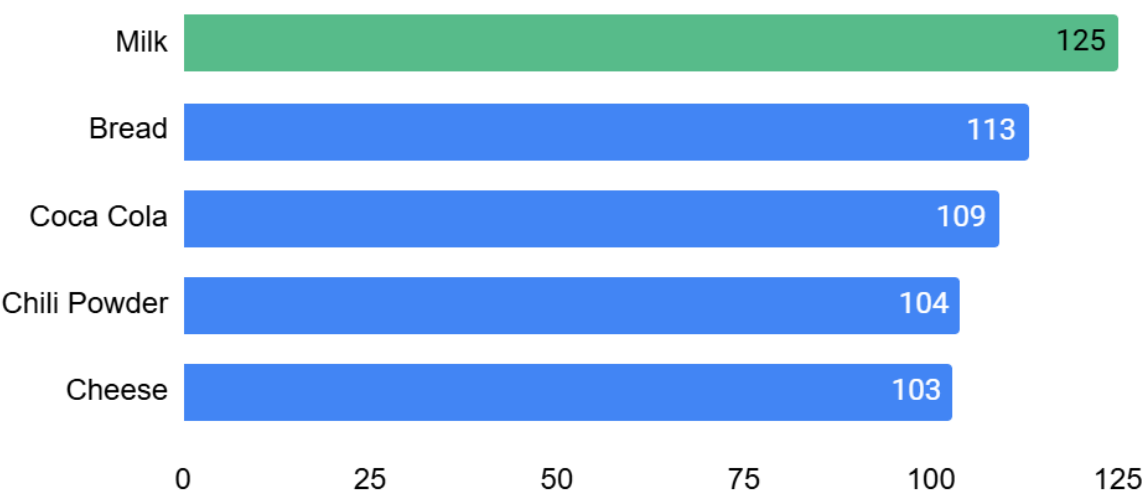


# 1. What are the top 5 best-selling products by quantity and revenue?

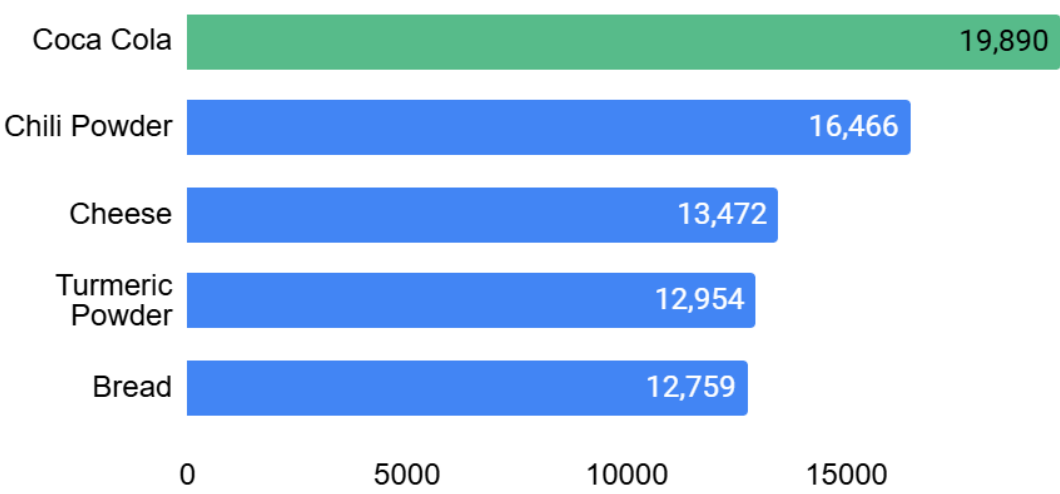
	name	quantity	quantity_ranking
▶	Milk	125	1
	Bread	113	2
	Coca Cola	109	3
	Chili Powder	104	4
	Cheese	103	5

	name	revenue
	Coca Cola	19890
	Chili Powder	16466
	Cheese	13472
	Turmeric Powder	12954
	Bread	12759

Milk was sold the highest in quantity among all the products



Coca Cola earned the highest revenue among all the products



## 2. Which customers placed the most orders?

	customer_id	full_name	total_order_placed
▶	14	Kimaya Bose	9
	8	Jayesh Lall	9

- Customer **Kimaya Bose** and **Jayesh Lall** placed the most orders. Both placed **9 orders each**.

## 3. Who are the top customers based on total spending?

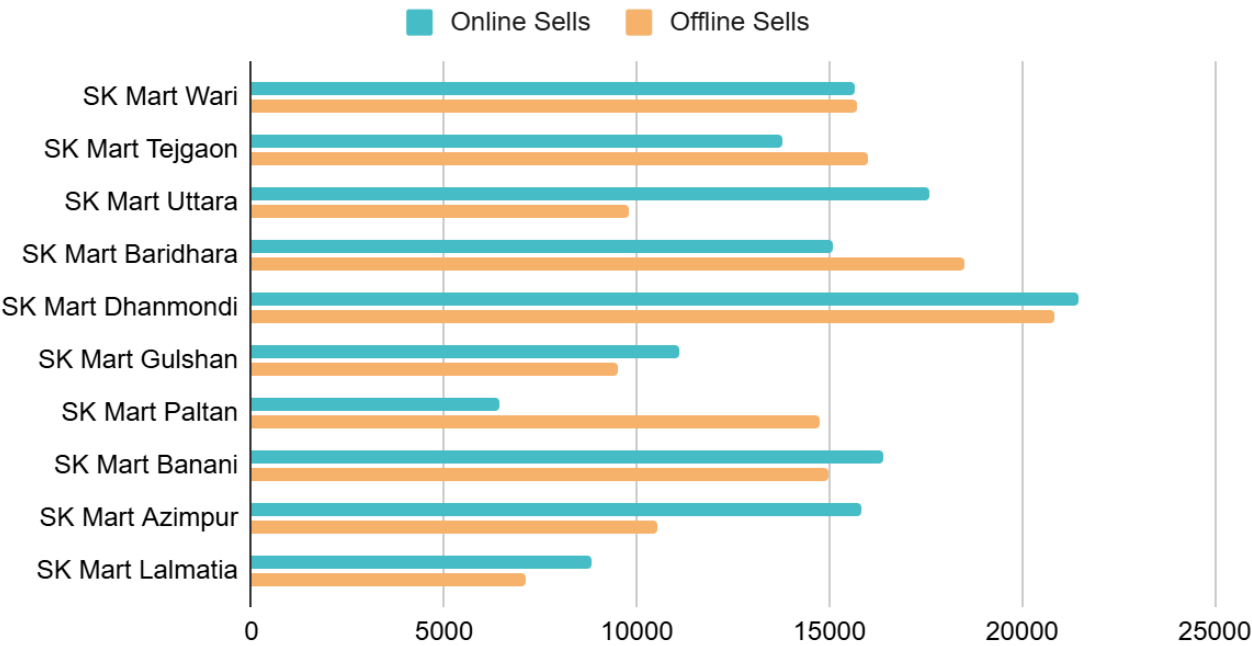
	name	total_spend
▶	Jayesh Lall	9126

- Customer **Jayesh Lall** spent the most among all the customer with spending of **9,136 tk**.

## 4. Compare online vs. offline sales for each store.

	store_id	store_name	online_sales	offline_sales
▶	1	SK Mart Wari	15677	15723
	2	SK Mart Tejgaon	13778	16006
	3	SK Mart Uttara	17602	9808
	4	SK Mart Baridhara	15063	18520
	5	SK Mart Dhanmondi	21453	20836
	6	SK Mart Gulshan	11111	9538
	7	SK Mart Paltan	6455	14754
	8	SK Mart Banani	16418	14976
	9	SK Mart Azimpur	15815	10544
	10	SK Mart Lalmatia	8853	7099

## Online & Offline Sells Comparison



- **SK Mart Dhanmondi** has **both highest** online and **offline** sells. **SK Mart Paltan** has the **lowest** online sells and **SK Mart Lalmatia** has the **lowest** offline sells

## 5. Which product categories generate the highest and lowest revenue?

	category_name	revenue
▶	Dairy	40490

	category_name	revenue
▶	Oil	16303

- **Dairy Products** generated the **highest revenue** whereas **Oil** generated the **lowest revenue**

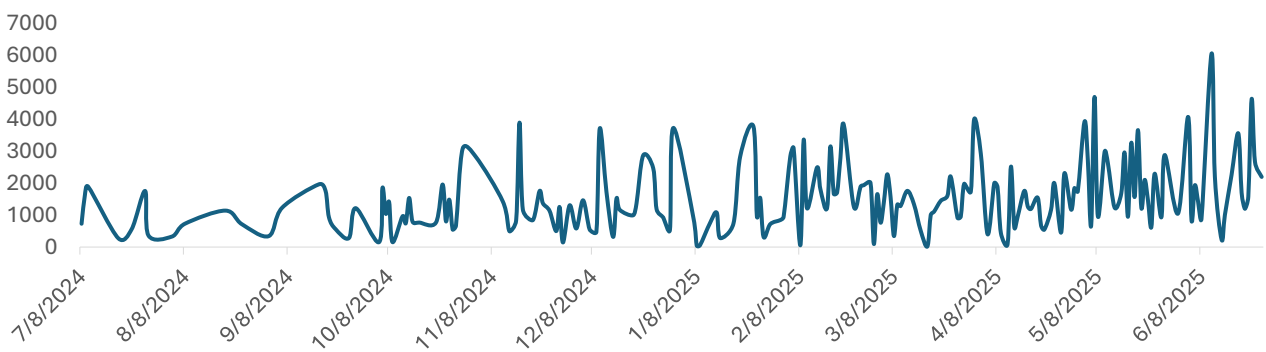
## 6. Which marketing campaign brought in the most orders?

	campaign_name	orders
▶	Eid Mega Sale	39

- **Eid Mega Sale** Campaign brought in the **most orders** with order count **39**

## 7. What is the revenue trend over days or months?

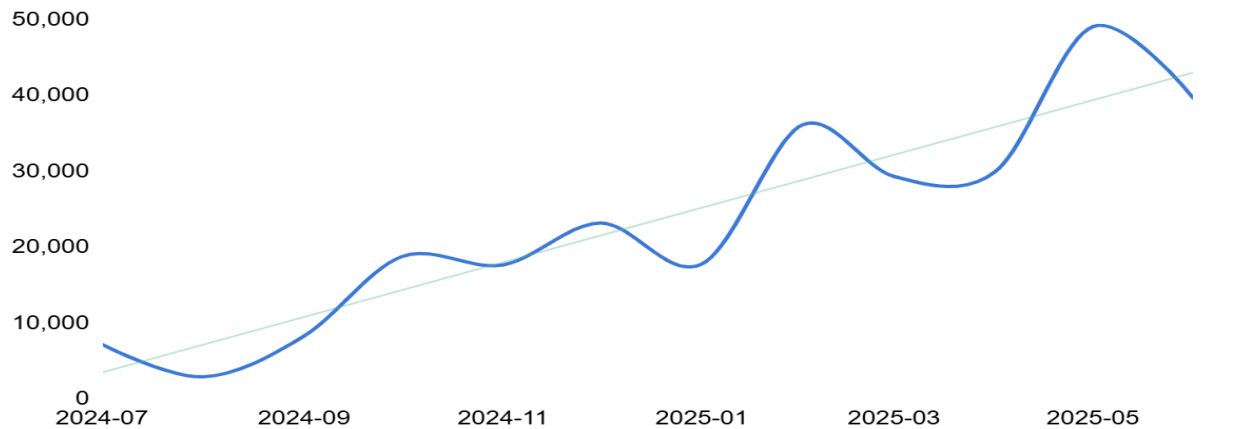
Revenue Trend over Days



- The **Highest Revenue** in a single day was generated on **11<sup>th</sup> June 2025** with **6,064 tk**. There were several marketing campaign active on that day. Those are:

	marketing_id	campaign_name
▶	12	Boishakhi Utsob
	21	Summer Super Sale
	21	Summer Super Sale
	5	Boishakhi Utsob
	15	Boishakhi Utsob
	19	Eid Mega Sale

Revenue Trend over Months



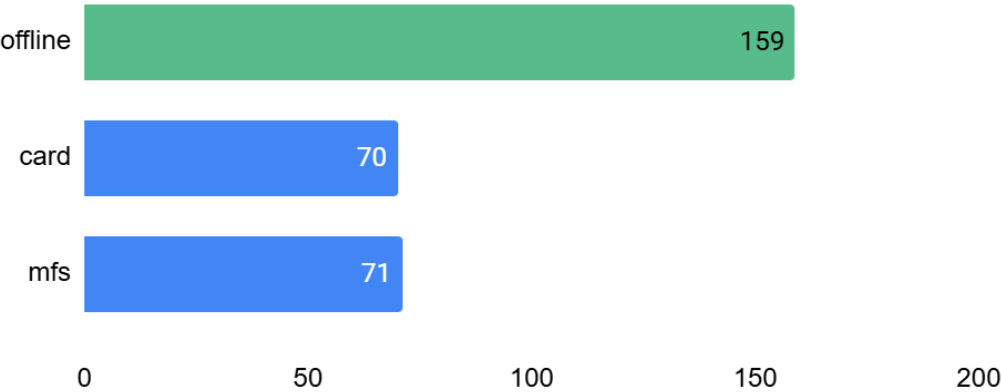
- The **Highest Revenue** in a single month was generated on **May 2025** with **49,098 tk**. There were several marketing campaign active on that day. Those are:

marketing_id	campaign_name
20	Flash Friday Sale
6	Ramadan Discount
3	App Launch Bonus
5	Boishakhi Utsob
9	Boishakhi Utsob
8	SK Mart Anniversary
16	Ramadan Discount
19	Eid Mega Sale
10	App Launch Bonus
7	Eid Mega Sale
11	Flash Friday Sale
18	Eid Mega Sale
14	Eid Mega Sale
17	SK Mart Anniversary

## 8. Which payment method is used most frequently?

	payment_method	no_of_uses
▶	offline	159

Offline method was used the most for payment



## 9. What are the current inventory levels per store and product?

	store_name	quantity
▶	SK Mart Wari	14075
	SK Mart Dhanmondi	11695
	SK Mart Tejgaon	10956
	SK Mart Baridhara	9734
	SK Mart Uttara	7828

- **SK Mart Wari** has the **highest quantity** of inventory stored among the stores.
- Rest of the stores missing from this list have inventory value null in dataset. This issue must be resolved immediately.

name	quantity
Gura Chini	7461
Mustard Oil	6678
Chinigura Rice	5921
Atop Rice	5414
Sunflower Oil	5400
Chanachur	5335
Miniket Rice	4945
Brown Sugar	4673
Soybean Oil	4327
White Sugar	4134

- **Gura Chini** has the **highest quantity** of inventory stored among the products.
- Rest of the products missing from this list have inventory value null in dataset. This issue must be resolved immediately.

## 10. Add a column last\_order\_date to the customers table.

```
alter table customers
add column last_order_date datetime;
```

## 11. Update each customer's last\_order\_date based on their latest order.

```
update customers c
join (
    select
        customer_id,
        max(order_date) as last_order_date
    from orders
    group by 1
) od on c.id = od.customer_id
set c.last_order_date = od.last_order_date;
```

## 12. Insert a new promotional campaign and assign it to new orders.

```
INSERT INTO marketing_campaigns (
    id,
    campaign_name,
    platform,
    budget,
    start_date,
    end_date,
    notes,
    created_at,
    updated_at
)
VALUES (
    21,
    'Summer Super Sale',
    'facebook',
    5000.00,
    '2025-06-01',
    '2025-06-30',
    'Promotional campaign targeting young adults during summer.',
    NOW(),
    NOW()
);
```



-- Assign

```
UPDATE orders
SET marketing_id = 21
WHERE id IN (
  SELECT id FROM (
    SELECT id
    FROM orders
    WHERE order_date >= '2025-06-01'
    AND marketing_id IS NULL
  ) AS sub
);
```

## 13. Delete products that haven't been sold in the last 6 months.

	id	name	category_id	price	description	discount_percent	created_at	updated_at
•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

- There was no product which wasn't sold for the last 6 months. So no products were deleted.

-- Assign

```
UPDATE orders
SET marketing_id = 21
WHERE id IN (
  SELECT id FROM (
    SELECT id
    FROM orders
    WHERE order_date >= '2025-06-01'
    AND marketing_id IS NULL
  ) AS sub
);
```

# 14. Rank customers by total amount spent.

name	total_spend	customer_rank	name	total_spend	customer_rank
Jayesh Lall	9126	1	Aarush Batta	5231	19
Aradhya Lall	7909	2	Dishani Buch	5211	20
Kimaya Bose	7737	3	Divyansh Uppal	5167	21
Anvi Mallick	7480	4	Darshit Jhaveri	5105	22
Kabir Gole	7383	5	Ojas Suresh	5078	23
Pari Bose	7338	6	Indranil Bala	5068	24
Darshit Vig	7224	7	Riya Dhar	4970	25
Hridaan Ramakrishnan	7167	8	Shanaya Jha	4942	26
Bhavin Khosla	6358	9	Taimur Chada	4889	27
Dhruv Lalla	6260	10	Kimaya Kapoor	4764	28
Amira Kamdar	6139	11	Bhamini Sankaran	4759	29
Dharmajan Gade	5963	12	Indrans Kunda	4686	30
Indranil Rana	5937	13	Ehsaan Rege	4275	31
Romil Bora	5898	14	Divit Tank	4240	32
Indranil Sura	5629	15	Kiara Soni	4186	33
Gokul Dhawan	5622	16	Kismat Butala	4176	34
Vanya Garde	5367	17	Jayan Bhat	3887	35
Aaryahi Agrawal	5235	18	Madhup Jhaveri	3818	36
name	total_spend	customer_rank	name	total_spend	customer_rank
Pari Sami	3698	37	Myra Sarkar	2185	55
Jayant Kunda	3676	38	Indranil Mani	2078	56
Oorja Bhatti	3530	39	Advik Kaul	1889	57
Ivan Ramakrishnan	3434	40	Stuvan Sami	1850	58
Nishith Lall	3207	41	Rania Banerjee	1681	59
Sahil Zachariah	2994	42	Mamooty Yadav	1669	60
Nakul Bhagat	2919	43	Umang Varty	1652	61
Gokul Dani	2901	44	Tarini Banerjee	1582	62
Shanaya Singhal	2815	45	Kaira Chowdhury	1473	63
Lakshay Raja	2772	46	Yakshit Sibal	1298	64
Rohan Chandran	2716	47	Shayak Brahmabhatt	1182	65
Vidur Khosla	2658	48	Advik Korpai	1166	66
Dharmajan Sengupta	2625	49	Nirvi Bhandari	1084	67
Vritika Chad	2562	50	Kismat Borde	1041	68
Miraan Manne	2440	51	Sana Wali	945	69
Adah Sur	2403	52	Shlok Divan	628	70
Nakul Solanki	2284	53	Madhup Dasgupta	318	71
Elakshi Kumer	2224	54	Hridaan Yohannan	128	72
			Badal Rattan	99	73

- Jayesh Lall was ranked number 01 among all the customers based on **total spending** with **9,126 tk**, where the **avg spending** was **3,836 tk**.

	avg_spend
▶	3836

## 15. Show the top 3 best-selling products per store.

- By sold quantity

store_name	product_name	total_sold	product_ranking
SK Mart Wari	Milk	23	1
SK Mart Wari	Gura Chini	19	2
SK Mart Wari	Potato Chips	18	3
SK Mart Tejgaon	Milk	25	1
SK Mart Tejgaon	Onion	21	2
SK Mart Tejgaon	Yogurt	18	3
SK Mart Tejgaon	Coriander	18	3
SK Mart Tejgaon	Coca Cola	18	3
SK Mart Uttara	Butter	33	1
SK Mart Uttara	Turmeric Powder	13	2
SK Mart Uttara	Coca Cola	13	2
SK Mart Uttara	Detergent	13	2
SK Mart Uttara	Bread	13	2
SK Mart Uttara	Soybean Oil	12	3
SK Mart Uttara	Coriander	12	3
SK Mart Uttara	Tomato	12	3
SK Mart Baridhara	Yogurt	20	1
SK Mart Baridhara	Sunflower Oil	19	2

store_name	product_name	total_sold	product_ranking
SK Mart Gulshan	Sprite	13	2
SK Mart Gulshan	Cumin	11	3
SK Mart Paltan	Milk	17	1
SK Mart Paltan	Cake	17	1
SK Mart Paltan	Cheese	16	2
SK Mart Paltan	Cumin	14	3
SK Mart Banani	Cheese	17	1
SK Mart Banani	White Sugar	16	2
SK Mart Banani	Onion	15	3
SK Mart Banani	Turmeric Powder	15	3
SK Mart Azimpur	Chili Powder	17	1
SK Mart Azimpur	Nimki	15	2
SK Mart Azimpur	Turmeric Powder	14	3
SK Mart Azimpur	Detergent	14	3
SK Mart Azimpur	White Sugar	14	3
SK Mart Lalmatia	Coca Cola	15	1
SK Mart Lalmatia	Brown Sugar	14	2
SK Mart Lalmatia	Gura Chini	13	3

store_name	product_name	total_sold	product_ranking
SK Mart Baridhara	Sunflower Oil	19	2
SK Mart Baridhara	Chili Powder	17	3
SK Mart Dhanmondi	Soybean Oil	21	1
SK Mart Dhanmondi	Coca Cola	21	1
SK Mart Dhanmondi	Turmeric Powder	21	1
SK Mart Dhanmondi	Chanachur	20	2
SK Mart Dhanmondi	Detergent	18	3
SK Mart Gulshan	Bread	15	1
SK Mart Gulshan	Chili Powder	13	2
SK Mart Gulshan	Sprite	13	2
SK Mart Gulshan	Cumin	11	3
SK Mart Paltan	Milk	17	1
SK Mart Paltan	Cake	17	1
SK Mart Paltan	Cheese	16	2
SK Mart Paltan	Cumin	14	3
SK Mart Banani	Cheese	17	1
SK Mart Banani	White Sugar	16	2
SK Mart Banani	Onion	15	3

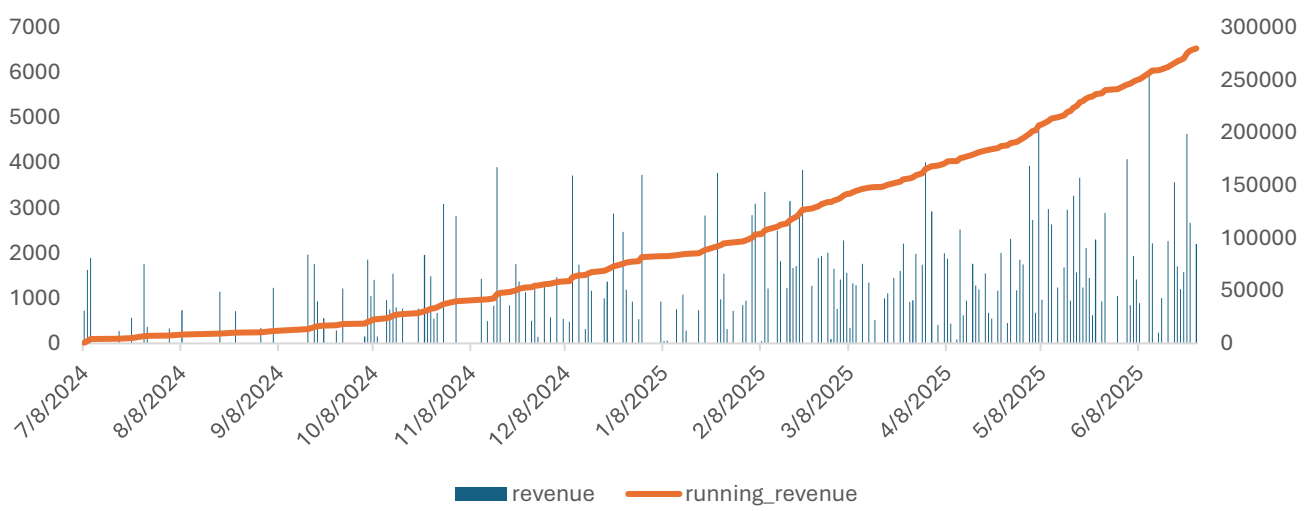
• By Revenue

store_name	product_name	revenue	product_ranking
SK Mart Wari	Potato Chips	3181	1
SK Mart Wari	Dishwasher	2708	2
SK Mart Wari	Chanachur	2602	3
SK Mart Tejgaon	Coca Cola	3285	1
SK Mart Tejgaon	Yogurt	2343	2
SK Mart Tejgaon	Miniket Rice	1809	3
SK Mart Uttara	Butter	3353	1
SK Mart Uttara	Coca Cola	2372	2
SK Mart Uttara	Turmeric Powder	1773	3
SK Mart Baridhara	Chili Powder	2692	1
SK Mart Baridhara	Yogurt	2604	2
SK Mart Baridhara	Dishwasher	2230	3
SK Mart Dhanmondi	Coca Cola	3832	1
SK Mart Dhanmondi	Chanachur	3061	2
SK Mart Dhanmondi	Turmeric Powder	2864	3
SK Mart Gulshan	Sprite	2200	1
SK Mart Gulshan	Chili Powder	2058	2
SK Mart Gulshan	Bread	1694	3

store_name	product_name	revenue	product_ranking
SK Mart Dhanmondi	Coca Cola	3832	1
SK Mart Dhanmondi	Chanachur	3061	2
SK Mart Dhanmondi	Turmeric Powder	2864	3
SK Mart Gulshan	Sprite	2200	1
SK Mart Gulshan	Chili Powder	2058	2
SK Mart Gulshan	Bread	1694	3
SK Mart Paltan	Potato Chips	2120	1
SK Mart Paltan	Cheese	2093	2
SK Mart Paltan	Cake	1583	3
SK Mart Banani	Sprite	2370	1
SK Mart Banani	Cheese	2224	2
SK Mart Banani	Coca Cola	2190	3
SK Mart Azimpur	Chili Powder	2692	1
SK Mart Azimpur	Turmeric Powder	1909	2
SK Mart Azimpur	White Sugar	1634	3
SK Mart Lalmatia	Coca Cola	2737	1
SK Mart Lalmatia	Chili Powder	1425	2
SK Mart Lalmatia	Gura Chini	1121	3

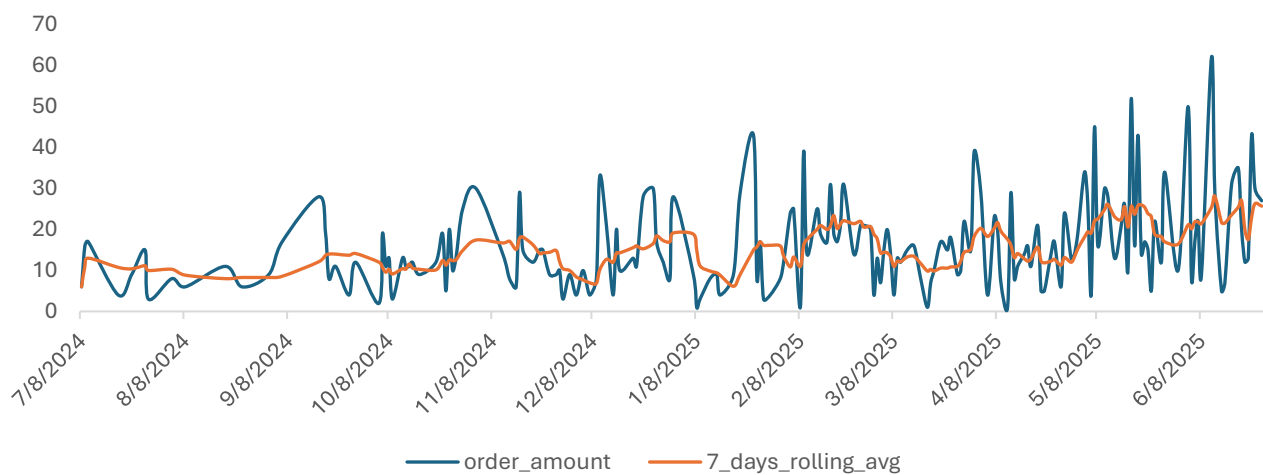
16. Calculate a running total of daily revenue

Running Revenue and Daily Revenue by Days



# 17. Compute a 7-day rolling average of total order amounts.

Order Amount and 7-days-rolling-avg over days



# 18. Show the time difference between each customer's consecutive orders.

- Partial Output Shown in Excel

customer_id	full_name	order_date	previous_order_date	days_between_orders
1	Vanya Garde	7/8/2024	NULL	NULL
1	Vanya Garde	7/10/2024	7/8/2024	2
1	Vanya Garde	8/4/2024	7/10/2024	25
1	Vanya Garde	12/15/2024	8/4/2024	133
1	Vanya Garde	5/7/2025	12/15/2024	143
2	Sahil Zachariah	9/17/2024	NULL	NULL
2	Sahil Zachariah	2/13/2025	9/17/2024	149
2	Sahil Zachariah	5/10/2025	2/13/2025	86
2	Sahil Zachariah	5/18/2025	5/10/2025	8
3	Anvi Mallick	10/28/2024	NULL	NULL
3	Anvi Mallick	11/17/2024	10/28/2024	20
3	Anvi Mallick	1/12/2025	11/17/2024	56
3	Anvi Mallick	2/6/2025	1/12/2025	25
3	Anvi Mallick	3/7/2025	2/6/2025	29
3	Anvi Mallick	5/7/2025	3/7/2025	61
3	Anvi Mallick	6/19/2025	5/7/2025	43
4	Jayan Bhat	11/16/2024	NULL	NULL
4	Jayan Bhat	12/7/2024	11/16/2024	21
4	Jayan Bhat	5/18/2025	12/7/2024	162
4	Jayan Bhat	5/22/2025	5/18/2025	4
5	Kiara Soni	9/17/2024	NULL	NULL
5	Kiara Soni	9/20/2024	9/17/2024	3
5	Kiara Soni	10/26/2024	9/20/2024	36
5	Kiara Soni	3/10/2025	10/26/2024	135
5	Kiara Soni	3/28/2025	3/10/2025	18
5	Kiara Soni	4/9/2025	3/28/2025	12
5	Kiara Soni	5/20/2025	4/9/2025	41
6	Ojas Suresh	10/13/2024	NULL	NULL
6	Ojas Suresh	1/7/2025	10/13/2024	86

- Customer Avg. Order Date Difference to Analyze Potential Churn Risk

full_name	avg_order_days_diff	full_name	avg_order_days_diff	full_name	avg_order_days_diff
Vanya Garde	76	Madhup Jhaveri	70	Pari Sami	84
Sahil Zachariah	81	Nakul Bhagat	38	Advik Kaul	48
Anvi Mallick	39	Indranil Mani	54	Ehsaan Rege	54
Jayan Bhat	62	Vritika Chad	68	Vidur Khosla	165
Kiara Soni	41	Hridaan Ramakrishnan	38	Darshit Vig	35
Ojas Suresh	63	Romil Bora	73	Stuvan Sami	49
Aaryahi Agrawal	47	Riya Dhar	64	Lakshay Raja	80
Jayesh Lall	32	Jayant Kunda	71	Nakul Solanki	103
Dharmajan Sengupta	89	Divyansh Uppal	65	Bhamini Sankaran	62
Taimur Chada	68	Indranil Bala	45	Pari Bose	37
Bhavin Khosla	30	Divit Tank	51	Shlok Divan	27
Kimaya Bose	27	Myra Sarkar	50	Nishith Lall	54
Aarush Batta	62	Umang Varty	106	Advik Korpall	81
Oorja Bhatti	167	Tarini Banerjee	104	Indrans Kunda	129
Gokul Dani	33	Adah Sur	147	Shayak Brahmbhatt	12
Dishani Buch	77	Shanaya Jha	55	Mamooty Yadav	255
Kismat Butala	111	Amira Kamdar	31	Kabir Gole	62
Miraan Manne	3	Kimaya Kapoor	49	Darshit Jhaveri	18
Rania Banerjee	137	Shanaya Singhal	4	Aradhya Lall	23
Rohan Chandran	64	Kismat Borde	78	Dharmajan Gade	25
Ivan Ramakrishnan	31	Nirvi Bhandari	112	Indranil Sura	54
Indranil Rana	33	Dhruv Lalla	44		
Gokul Dhawan	45	Yakshit Sibal	10		

- Customers with darker red shades are at high risk of being churned or are already churned

19. Identify customers who placed two orders on back-to-back days.

customer_id	full_name
14	Kimaya Bose
24	Indranil Rana
41	Myra Sarkar
48	Kimaya Kapoor
72	Darshit Jhaveri
73	Aradhya Lall

# 20. Classify orders as 'High', 'Medium', or 'Low' value based on amount

- Partial Output

order_id	order_amount	order_class	order_id	order_amount	order_class	order_id	order_amount	order_class
41	1	Low	250	7	Medium	124	18	High
91	1	Low	266	7	Medium	190	18	High
125	1	Low	13	8	Medium	33	19	High
142	1	Low	22	8	Medium	43	19	High
148	1	Low	24	8	Medium	70	19	High
181	1	Low	72	8	Medium	136	19	High
217	1	Low	82	8	Medium	152	19	High
218	1	Low	106	8	Medium	158	19	High
277	1	Low	113	8	Medium	187	19	High
286	1	Low	132	8	Medium	240	19	High
287	1	Low	134	8	Medium	147	20	High
291	1	Low	153	8	Medium	230	20	High
34	2	Low	179	8	Medium	242	20	High
68	2	Low	188	8	Medium	297	20	High
114	2	Low	194	8	Medium	61	21	High
154	2	Low	202	8	Medium	168	22	High
165	2	Low	211	8	Medium	133	23	High

# 21. Show whether each day's sales were higher or lower than the previous day.

- Partial Output shown in Excel

order_date	revenue	previous_day_revenue	day_over_day_percent_change
7/8/2024	730.62	NULL	NULL
7/9/2024	1628.19	730.62	122.85
7/10/2024	1889.93	1628.19	16.08
7/19/2024	274.72	1889.93	-85.46
7/23/2024	561.92	274.72	104.54
7/27/2024	1759.61	561.92	213.14
7/28/2024	366.33	1759.61	-79.18
8/4/2024	327.83	366.33	-10.51
8/8/2024	736.49	327.83	124.66
8/20/2024	1143.23	736.49	55.23
8/25/2024	714.17	1143.23	-37.53
9/2/2024	344.2	714.17	-51.8
9/6/2024	1234.02	344.2	258.52
9/17/2024	1968.23	1234.02	59.5
9/19/2024	1754.38	1968.23	-10.87
9/20/2024	933.79	1754.38	-46.77
9/22/2024	560.23	933.79	-40
9/26/2024	284.61	560.23	-49.2
9/28/2024	1219	284.61	328.31
10/5/2024	153.86	1219	-87.38



22. Find customers who placed only one order ever.

	customer_id	full_name
▶	13	Hridaan Yohannan
	25	Badal Rattan

23. Find products that were only ordered during marketing campaigns.

- There was **no product** that was **exclusively sold during marketing campaigns**

24. Find the most popular product among buyers of 'Soybean Oil'.

	name	total_order
▶	Soybean Oil	85

- **Soybean Oil** was the most popular product among the customers who bought soybean oil, with **total order quantity** of **85**



## 25. Create a trigger to update last\_order\_date after a new order.

```
delimiter $$

create trigger update_last_order_date
after insert on orders
for each row
begin
    update customers
    set last_order_date = new.order_date
    where id = new.customer_id
    and (last_order_date is null or new.order_date > last_order_date);
end$$

delimiter ;
```

## 26. Schedule an update to refresh all last\_order\_date fields once daily.

```
set global event_scheduler = on;

create event update_last_order_dates_daily
on schedule every 1 day
starts current_timestamp
on completion preserve
do
    update customers c
    set last_order_date = (
        select max(o.order_date)
        from orders o
        where o.customer_id = c.id
    );
```