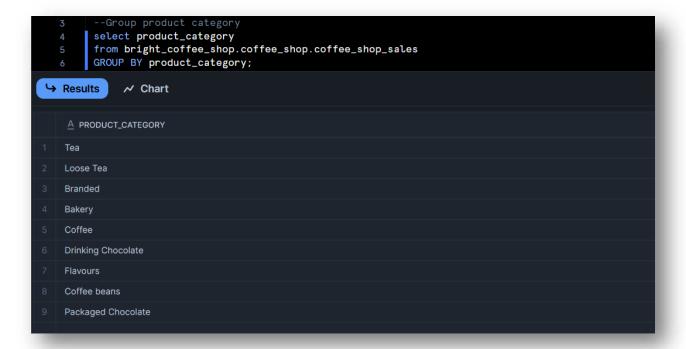# Methodology: Bright light Coffee Shop

Data Collection

Data was collected from the coffee shop's point-of-sale (POS) system over a defined period (01 January-31 June 2023. The dataset includes transaction id,   transaction date, transaction time, transaction qty, store id, store location, product id, unit price, product category, product type and product detail.
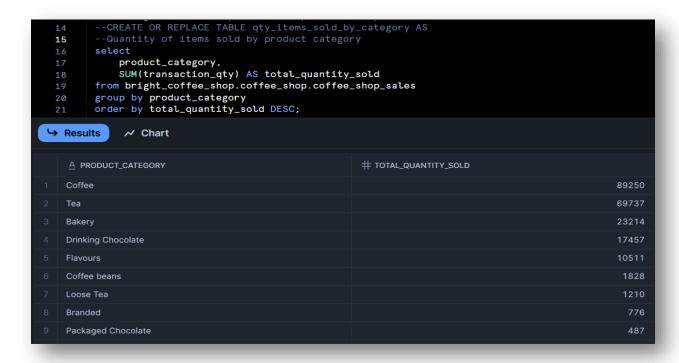
Data Cleaning

Raw data was cleaned to remove duplicates, incomplete entries, and anomalies. And unit price values were formatted consistently for analysis. SQL functions er used for Counting, Grouping, creating buckets (e.g. time buckets)

1.Grouping product Category

```sql
--Group product category
select product_category
from bright_coffee_shop.coffee_shop.coffee_shop_sales
GROUP BY product_category;
```

↳ Results   ∿ Chart

	A PRODUCT_CATEGORY
1	Tea
2	Loose Tea
3	Branded
4	Bakery
5	Coffee
6	Drinking Chocolate
7	Flavours
8	Coffee beans
9	Packaged Chocolate

2.Quantity sold by product category

```
14    --CREATE OR REPLACE TABLE qty_items_sold_by_category AS
15    --Quantity of items sold by product category
16    select
17        product_category,
18        SUM(transaction_qty) AS total_quantity_sold
19    from bright_coffee_shop.coffee_shop.coffee_shop_sales
20    group by product_category
21    order by total_quantity_sold DESC;
```

↳ Results   ⌁ Chart

	A PRODUCT_CATEGORY	# TOTAL_QUANTITY_SOLD
1	Coffee	89250
2	Tea	69737
3	Bakery	23214
4	Drinking Chocolate	17457
5	Flavours	10511
6	Coffee beans	1828
7	Loose Tea	1210
8	Branded	776
9	Packaged Chocolate	487

3. Total Revenue

```
25    --total revenu
26    select sum(unit_price*transaction_qty) as total_sales
27        from bright_coffee_shop.coffee_shop.coffee_shop_sales;
28
```

↳ Results   ⌁ Chart

	# TOTAL_SALES
1	698812.33

4.Total sales per Location

```
31   --total sales per locatio
32   select store_location,
33   sum(unit_price*transaction_qty) as total_sales
34       from bright_coffee_shop.coffee_shop.coffee_shop_sales
35   GROUP BY store_Location;
```

↳ **Results**   ～ **Chart**

A STORE_LOCATION	# TOTAL_SALES
1 Hell's Kitchen	236511.17
2 Lower Manhattan	230057.25
3 Astoria	232243.91

5.Date and Time buckets

```
38   --date & time buckets
39   select transaction_date,
40   transaction_time
41   FROM bright_coffee_shop.coffee_shop.coffee_shop_sales;
42
43   --day bucket
```

↳ **Results**   ～ **Chart**

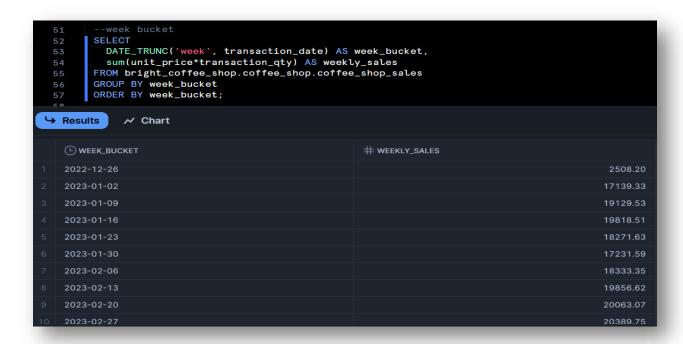| 🕐 TRANSACTION_DATE	🕐 TRANSACTION_TIME
1 2023-01-01	07:06:11
2 2023-01-01	07:08:56
3 2023-01-01	07:14:04
4 2023-01-01	07:20:24
5 2023-01-01	07:22:41
6 2023-01-01	07:22:41
7 2023-01-01	07:25:49
8 2023-01-01	07:33:34
9 2023-01-01	07:39:13

6. Creating day buckets

```
43    --day bucket
44    SELECT
45      DATE_TRUNC('day', transaction_date) AS day_bucket,
46      sum(unit_price*transaction_qty) AS daily_sales
47    FROM bright_coffee_shop.coffee_shop.coffee_shop_sales
48    GROUP BY day_bucket
49    ORDER BY day_bucket;
50
```

↳ Results   ∿ Chart

	DAY_BUCKET	DAILY_SALES
1	2023-01-01	2508.20
2	2023-01-02	2403.35
3	2023-01-03	2565.00
4	2023-01-04	2220.10
5	2023-01-05	2418.85
6	2023-01-06	2273.85
7	2023-01-07	2619.65
8	2023-01-08	2638.53

7. Weekly sales bucket

```
51    --week bucket
52    SELECT
53      DATE_TRUNC('week', transaction_date) AS week_bucket,
54      sum(unit_price*transaction_qty) AS weekly_sales
55    FROM bright_coffee_shop.coffee_shop.coffee_shop_sales
56    GROUP BY week_bucket
57    ORDER BY week_bucket;
58
```

↳ Results   ∿ Chart

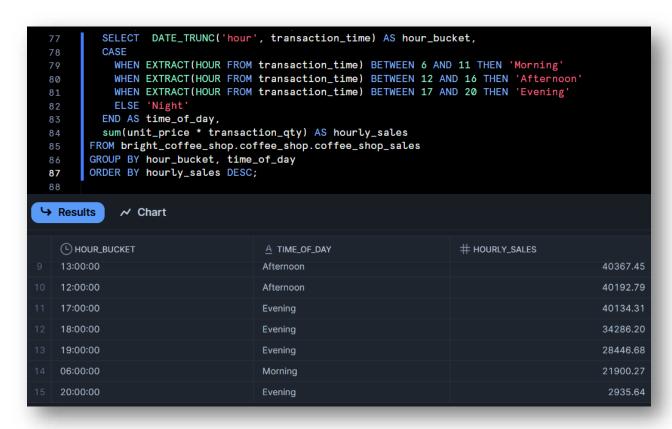|	WEEK_BUCKET	WEEKLY_SALES
1	2022-12-26	2508.20
2	2023-01-02	17139.33
3	2023-01-09	19129.53
4	2023-01-16	19818.51
5	2023-01-23	18271.63
6	2023-01-30	17231.59
7	2023-02-06	18333.35
8	2023-02-13	19856.62
9	2023-02-20	20063.07
10	2023-02-27	20389.75

8.Monthly sales bucket
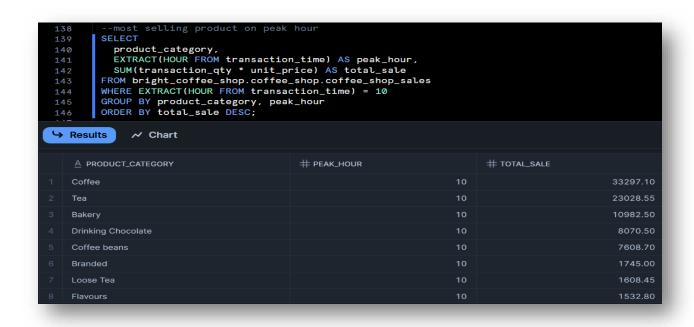
```
59    --monthly bucket
60    SELECT
61      DATE_TRUNC('month', transaction_date) AS month_bucket,
62      sum(unit_price*transaction_qty) AS monthly_sales
63    FROM bright_coffee_shop.coffee_shop.coffee_shop_sales
64    GROUP BY month_bucket
65    ORDER BY month_bucket;
```

↳ Results   ∿ Chart

🕐 MONTH_BUCKET	# MONTHLY_SALES
1	2023-01-01	81677.74
2	2023-02-01	76145.19
3	2023-03-01	98834.68
4	2023-04-01	118941.08
5	2023-05-01	156727.76
6	2023-06-01	166485.88

9.Extracting transaction time using CASE statement

```
77      SELECT  DATE_TRUNC('hour', transaction_time) AS hour_bucket,
78      CASE
79        WHEN EXTRACT(HOUR FROM transaction_time) BETWEEN 6 AND 11 THEN 'Morning'
80        WHEN EXTRACT(HOUR FROM transaction_time) BETWEEN 12 AND 16 THEN 'Afternoon'
81        WHEN EXTRACT(HOUR FROM transaction_time) BETWEEN 17 AND 20 THEN 'Evening'
82        ELSE 'Night'
83      END AS time_of_day,
84      sum(unit_price * transaction_qty) AS hourly_sales
85    FROM bright_coffee_shop.coffee_shop.coffee_shop_sales
86    GROUP BY hour_bucket, time_of_day
87    ORDER BY hourly_sales DESC;
88
```

↳ Results   ∿ Chart

🕐 HOUR_BUCKET	🅰 TIME_OF_DAY	# HOURLY_SALES
9	13:00:00	Afternoon	40367.45
10	12:00:00	Afternoon	40192.79
11	17:00:00	Evening	40134.31
12	18:00:00	Evening	34286.20
13	19:00:00	Evening	28446.68
14	06:00:00	Morning	21900.27
15	20:00:00	Evening	2935.64

10.Most Selling products on peak hour

```
138    --most selling product on peak hour
139    SELECT
140       product_category,
141       EXTRACT(HOUR FROM transaction_time) AS peak_hour,
142       SUM(transaction_qty * unit_price) AS total_sale
143    FROM bright_coffee_shop.coffee_shop.coffee_shop_sales
144    WHERE EXTRACT(HOUR FROM transaction_time) = 10
145    GROUP BY product_category, peak_hour
146    ORDER BY total_sale DESC;
```

↳ Results   ∿ Chart

	A PRODUCT_CATEGORY	# PEAK_HOUR	# TOTAL_SALE
1	Coffee	10	33297.10
2	Tea	10	23028.55
3	Bakery	10	10982.50
4	Drinking Chocolate	10	8070.50
5	Coffee beans	10	7608.70
6	Branded	10	1745.00
7	Loose Tea	10	1608.45
8	Flavours	10	1532.80

Excel pivot tables.

1.Sum of total revenue per category

Row Labels	Sum of total_revenue
Bakery	82315.64
Branded	13607
Coffee	269952.45
Coffee beans	40085.25
Drinking Chocolate	72416
Flavours	8408.8
Loose Tea	11213.6
Packaged Chocolate	4407.64
Tea	196405.95
Grand Total	**698812.33**

2.Most selling product per category

Sum of unit_price	Column Labels									
Row Labels	Bakery	Branded	Coffee	Coffee beans	Drinking Chocolate	Flavours	Loose Tea	Packaged Chocolate	Tea	Grand Total
Astoria	25844.75	5457	60560.3	10219.2	17822.75	1192	3194	1089.71	45892.7	171272.41
Hell's Kitchen	27187.95	1942	60881.35	15485.1	15653	1896	4461.35	1698.77	43000.15	172205.67
Lower Manhattan	27931.44	5838	55187.65	11140.95	14103	2344	3558.25	1619.16	39142.5	160864.95
Grand Total	**80964.14**	**13237**	**176629.3**	**36845.25**	**47578.75**	**5432**	**11213.6**	**4407.64**	**128035.35**	**504343.03**

Hell's Kitchen made most sales with R172205.67, followed by Astoria with 171272.41, Lower Manhattan coming last with 160864.95

3.Total Revenue per month

Row Labels	Sum of total_revenue
⊞ Jan	81677.74
⊞ Feb	76145.19
⊞ Mar	98834.68
⊞ Apr	118941.08
⊞ May	156727.76
⊞ Jun	166485.88
Grand Total	698812.33

Sum of total_revenue

Total revenue per month

Months (transaction_date) ▼   Days (transaction_date) ▼   transaction_date ▼

Dashboard using PowerBI.

Bright Coffee Shop Sales Analysis

Total Revenue
698.81K

Sum of Quantity
214.47K

Total Sales by Store Location

Total Sales by Product Category per Location