

# Monday Cofféé Sales!

SQL Project





# Objective

The goal of this project is to analyze the sales data of Monday Coffee, a company that has been selling its products online since January 2023, and to recommend the top three major cities in India for opening new coffee shop locations based on consumer demand and sales performance.



# Schema

```
DROP TABLE IF EXISTS sales;  
DROP TABLE IF EXISTS customers;  
DROP TABLE IF EXISTS products;  
DROP TABLE IF EXISTS city;  
  
-- Import Rules  
-- 1st import to city  
-- 2nd import to products  
-- 3rd import to customers  
-- 4th import to sales
```

## City Table

```
CREATE TABLE city  
(  
    city_id INT PRIMARY KEY,  
    city_name VARCHAR(15),  
    population BIGINT,  
    estimated_rent FLOAT,  
    city_rank INT  
)j
```

## Customers

```
CREATE TABLE customers  
(  
    customer_id INT PRIMARY KEY,  
    customer_name VARCHAR(25),  
    city_id INT,  
    CONSTRAINT fk_city FOREIGN KEY (city_id) REFERENCES city(city_id)  
)j
```

## Products

```
CREATE TABLE products  
(  
    product_id INT PRIMARY KEY,  
    product_name VARCHAR(35),  
    Price float  
)j
```

# Schema

```
CREATE TABLE sales
(
    sale_id INT PRIMARY KEY,
    sale_date  date,
    product_id  INT,
    customer_id INT,
    total FLOAT,
    rating INT,
    CONSTRAINT fk_products FOREIGN KEY (product_id) REFERENCES products(product_id),
    CONSTRAINT fk_customers FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
);
-- END of SCHEMAS
```



# Key Questions

## Coffee Consumers Count

1. How many people in each city are estimated to consume coffee, given that 25% of the population does?

```
● ● ●  
select city_name,  
       ROUND((population * 0.25)/1000000,2) AS coffee_consumers_million,  
       city_rank  
FROM city  
ORDER BY 2 DESC;
```

**Result**

	city_name character varying (15)	coffee_consumers_million numeric	city_rank integer
1	Delhi	7.75	3
2	Mumbai	5.10	2
3	Kolkata	3.73	7
4	Bangalore	3.08	1
5	Chennai	2.78	6
6	Hyderabad	2.50	4
7	Ahmedabad	2.08	5

## Total Revenue from Coffee Sales

2. What is the total revenue generated from coffee sales across all cities in the last quarter of 2023?



```
select city_name,
       sum(total) AS total_sales
FROM city
INNER JOIN customers ON city.city_id = customers.city_id
INNER JOIN sales ON customers.customer_id = sales.customer_id

WHERE EXTRACT(YEAR FROM sale_date) = 2023 AND EXTRACT(quarter FROM sale_date) = 4
GROUP BY city_name
ORDER BY total_sales DESC;
```

## Result

	city_name character varying (15)	total_sales double precision
1	Pune	434330
2	Chennai	302500
3	Bangalore	270780
4	Jaipur	248580
5	Delhi	238490
6	Kanpur	71890
7	Mumbai	71340

## Sales Count for Each Product

3. How many units of each coffee product have been sold?



```
SELECT p.product_name,
       count(p.product_id) AS cnt
  FROM products AS p
 LEFT JOIN sales ON p.product_id = sales.product_id
 GROUP By p.product_name
 ORDER By 2 DESC;
```

## Result

	city_name character varying (15)	coffee_consumers_million numeric	city_rank integer
1	Delhi	7.75	3
2	Mumbai	5.10	2
3	Kolkata	3.73	7
4	Bangalore	3.08	1
5	Chennai	2.78	6
6	Hyderabad	2.50	4
7	Ahmedabad	2.08	5

## Average Sales Amount per Cit

4. What is the average sales amount per customer in each city?



```
SELECT
    ci.city_name,
    SUM(s.total) as total_revenue,
    COUNT(DISTINCT s.customer_id) as total_cx,
    ROUND(
        SUM(s.total)::numeric/
        COUNT(DISTINCT s.customer_id)::numeric
        ,2) as avg_sale_pr_cx

FROM sales as s
JOIN customers as c
ON s.customer_id = c.customer_id
JOIN city as ci
ON ci.city_id = c.city_id
GROUP BY 1
ORDER BY 2 desc;
```

## Result

	city_name character varying (15)	total_revenue double precision	total_cx bigint	avg_sale_pr_cx numeric
1	Pune	1258290	52	24197.88
2	Chennai	944120	42	22479.05
3	Bangalore	860110	39	22054.10
4	Jaipur	803450	69	11644.20
5	Delhi	750420	68	11035.59

## 5. City Population and Coffee Consumers (25%)

-- Provide a list of cities along with their populations and estimated coffee consumers.  
-- return city\_name, total current cx, estimated coffee consumers (25%)

```
● ● ●  
  
WITH city_table AS  
(  
    SELECT  
        city_name,  
        ROUND((population * 0.25)/1000000, 2) as coffee_consumers  
    FROM city  
),  
customers_table AS  
(  
    SELECT  
        ci.city_name,  
        COUNT(DISTINCT c.customer_id) as unique(cx  
    FROM sales as s  
    JOIN customers as c  
    ON c.customer_id = s.customer_id  
    JOIN city as ci  
    ON ci.city_id = c.city_id  
    GROUP BY 1  
)
```

## 5. City Population and Coffee Consumers (25%)

- Provide a list of cities along with their populations and estimated coffee consumers.
- return city\_name, total current cx, estimated coffee consumers (25%)

```
● ● ●  
SELECT  
    customers_table.city_name,  
    city_table.coffee_consumers as coffee_consumer_in_millions,  
    customers_table.unique(cx)  
FROM city_table  
JOIN  
customers_table  
ON city_table.city_name = customers_table.city_name
```

## Result

	city_name character varying (15)	coffee_consumer_in_millions numeric	unique(cx) bigint
1	Bangalore	3.08	39
2	Chennai	2.78	42
3	Pune	1.88	52
4	Jaipur	1.00	69
5	Delhi	7.75	68
6	Mumbai	5.10	27
7	Dhaka	0.50	21

## 5. City Population and Coffee Consumers (25%)

- Provide a list of cities along with their populations and estimated coffee consumers.
- return city\_name, total current cx, estimated coffee consumers (25%)

```
● ● ●  
SELECT  
    customers_table.city_name,  
    city_table.coffee_consumers as coffee_consumer_in_millions,  
    customers_table.unique(cx)  
FROM city_table  
JOIN  
customers_table  
ON city_table.city_name = customers_table.city_name
```

## Result

	city_name character varying (15)	coffee_consumer_in_millions numeric	unique(cx) bigint
1	Bangalore	3.08	39
2	Chennai	2.78	42
3	Pune	1.88	52
4	Jaipur	1.00	69
5	Delhi	7.75	68
6	Mumbai	5.10	27
7	Dhaka	0.50	21

## 6. Top Selling Products by City

Result 

-- What are the top 3 selling products in each city based on sales volume?



```
SELECT *
FROM -- table
(
    SELECT
        ci.city_name,
        p.product_name,
        COUNT(s.sale_id) as total_orders,
        DENSE_RANK() OVER(PARTITION BY ci.city_name ORDER BY COUNT(s.sale_id) DESC) as rank
    FROM sales as s
    JOIN products as p
    ON s.product_id = p.product_id
    JOIN customers as c
    ON c.customer_id = s.customer_id
    JOIN city as ci
    ON ci.city_id = c.city_id
    GROUP BY 1, 2
    -- ORDER BY 1, 3 DESC
) as t1
WHERE rank <= 3
```

## 6. Top Selling Products by City

-- What are the top 3 selling products in each city based on sales volume?

# Result

	city_name character varying (15) 	product_name character varying (35) 	total_orders bigint 	rank bigint 
1	Ahmedabad	Cold Brew Coffee Pack (6 Bottles)	40	1
2	Ahmedabad	Coffee Beans (500g)	35	2
3	Ahmedabad	Instant Coffee Powder (100g)	26	3
4	Bangalore	Cold Brew Coffee Pack (6 Bottles)	197	1
5	Bangalore	Ground Espresso Coffee (250g)	167	2
6	Bangalore	Instant Coffee Powder (100g)	150	3
7	Chennai	Cold Brew Coffee Pack (6 Bottles)	192	1

-- Q.7

-- Customer Segmentation by City

-- How many unique customers are there in each city who have purchased coffee products?



```
SELECT
    ci.city_name,
    COUNT(DISTINCT c.customer_id) as unique_cx
FROM city as ci
LEFT JOIN
customers as c
ON c.city_id = ci.city_id
JOIN sales as s
ON s.customer_id = c.customer_id
WHERE
    s.product_id IN (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14)
GROUP BY 1
```

-- Q.7

-- Customer Segmentation by City

-- How many unique customers are there in each city who have purchased coffee products?

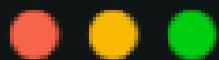
## Result

	city_name character varying (15) 	unique_cx bigint 
1	Ahmedabad	23
2	Bangalore	39
3	Chennai	42
4	Delhi	68
5	Hyderabad	21
6	Indore	21
7	Mumbai	69

-- Q8.

-- Average Sale vs Rent

-- Find each city and their average sale per customer and avg rent per customer



```
select city_name,
       SUM(s.total) as total_revenue,
       COUNT(DISTINCT s.customer_id) as total_customer,
       ROUND((sum(s.total)::numeric/count(distinct c.customer_id)::numeric),2) AS
avg_sale_per_customer,
       ROUND((sum(estimated_rent)::numeric/count(distinct c.customer_id)::numeric),2) AS
avg_rent_per_customer
FROM city
JOIN customers as c
  ON c.city_id = city.city_id
JOIN sales as s
  ON c.customer_id = s.customer_id
GROUP BY city_name
ORDER BY 2 DESC ,3 DESC;
```

-- Q8.

-- Average Sale vs Rent

-- Find each city and their average sale per customer and avg rent per customer

# Result

	city_name character varying (15) 	total_revenue double precision 	total_customer bigint 	avg_sale_per_customer numeric 	avg_rent_per_customer numeric 
1	Pune	1258290	52	24197.88	628182.69
2	Chennai	944120	42	22479.05	651835.71
3	Bangalore	860110	39	22054.10	1114892.31
4	Jaipur	803450	69	11644.20	215530.43
5	Delhi	750420	68	11035.59	431801.47
6	Mumbai	235000	27	8703.70	493500.00
7	Kannur	213550	35	6101.43	86091.43

-- Q.9

-- Monthly Sales Growth

-- Sales growth rate: Calculate the percentage growth (or decline) in sales over different time periods (monthly).



```
WITH monthly_sales AS
(
    SELECT
        ci.city_name,
        EXTRACT(MONTH FROM sale_date) as month,
        EXTRACT(YEAR FROM sale_date) as YEAR,
        SUM(s.total) as total_sale
    FROM sales as s
    JOIN customers as c
    ON c.customer_id = s.customer_id
    JOIN city as ci
    ON ci.city_id = c.city_id
    GROUP BY 1, 2, 3
    ORDER BY 1, 3, 2
),
growth_ratio AS (
    SELECT
        city_name,
        month,
        year,
        total_sale as current_month_sale,
        LAG(total_sale, 1) OVER(PARTITION BY city_name ORDER BY year, month) as last_month_sale
    FROM monthly_sales
)
```

-- Q.9

-- Monthly Sales Growth

-- Sales growth rate: Calculate the percentage growth (or decline) in sales over different time periods (monthly).



```
SELECT
    city_name,
    month,
    year,
    current_month_sale,
    last_month_sale,
    ROUND(
        (current_month_sale - last_month_sale)::numeric / last_month_sale::numeric * 100
        , 2
    ) as growth_ratio

FROM growth_ratio
WHERE
    last_month_sale IS NOT NULL
```

-- Q.9

-- Monthly Sales Growth

-- Sales growth rate: Calculate the percentage growth (or decline) in sales over different time periods (monthly).

# Result

	city_name character varying (15) 	month numeric 	year numeric 	current_month_sale double precision 	last_month_sale double precision 	growth_ratio numeric 
1	Ahmedabad	2	2023	4100	3750	9.33
2	Ahmedabad	3	2023	3050	4100	-25.61
3	Ahmedabad	4	2023	4040	3050	32.46
4	Ahmedabad	5	2023	2550	4040	-36.88
5	Ahmedabad	6	2023	2900	2550	13.73
6	Ahmedabad	7	2023	2800	2900	-3.45
7	Ahmedabad	8	2023	4300	2800	53.57

-- Q.10

-- Market Potential Analysis

-- Identify top 3 city based on highest sales, return city name, total sale, total rent, total customers, estimated coffee consumer

```
● ● ●

WITH city_table
AS
(
    SELECT
        ci.city_name,
        SUM(s.total) as total_revenue,
        COUNT(DISTINCT s.customer_id) as total_cx,
        ROUND(
            SUM(s.total)::numeric/
            COUNT(DISTINCT s.customer_id)::numeric
            ,2) as avg_sale_pr_cx

    FROM sales as s
    JOIN customers as c
    ON s.customer_id = c.customer_id
    JOIN city as ci
    ON ci.city_id = c.city_id
    GROUP BY 1
    ORDER BY 2 DESC
),|
```

-- Q.10

-- Market Potential Analysis

-- Identify top 3 city based on highest sales, return city name, total sale, total rent, total customers, estimated coffee consumer

```
● ● ●

city_rent AS
(
  SELECT
    city_name,
    estimated_rent,
    ROUND((population * 0.25)/1000000, 3) as estimated_coffee_consumer_in_millions
  FROM city
)
```

-- Q.10

-- Market Potential Analysis

-- Identify top 3 city based on highest sales, return city name, total sale, total rent, total customers, estimated coffee consumer

```
● ● ●  
  
SELECT  
    cr.city_name,  
    total_revenue,  
    cr.estimated_rent as total_rent,  
    ct.total_cx,  
    estimated_coffee_consumer_in_millions,  
    ct.avg_sale_pr_cx,  
    ROUND(  
        cr.estimated_rent::numeric/  
                                         ct.total_cx::numeric  
        , 2) as avg_rent_per_cx  
FROM city_rent as cr  
JOIN city_table as ct  
ON cr.city_name = ct.city_name  
ORDER BY estimated_coffee_consumer_in_millions DESC
```

-- Q.10

-- Market Potential Analysis

-- Identify top 3 city based on highest sales, return city name, total sale, total rent, total customers, estimated coffee consumer

# Result

	city_name character varying (15) 	total_revenue double precision 	total_rent double precision 	total_cx bigint 	estimated_coffee_consumer_in_millions numeric 	avg_sale_pr_cx numeric 	avg_rent_per_cx numeric 
1	Delhi	750420	22500	68	7.750	11035.59	330.88
2	Mumbai	235000	31500	27	5.100	8703.70	1166.67
3	Kolkata	171460	16200	28	3.725	6123.57	578.57
4	Bangalore	860110	29700	39	3.075	22054.10	761.54
5	Chennai	944120	17100	42	2.775	22479.05	407.14
6	Hyderabad	131520	22500	21	2.500	6262.86	1071.43
-	...	-----	-----	---	-----	-----	-----



# Recommendations



## -- Recomendation

### City 1: Pune

1. Average rent per customer is very low.
2. Highest total revenue.
3. Average sales per customer is also high.

### City 2: Delhi

1. Highest estimated coffee consumers at 7.7 million.
2. Highest total number of customers, which is 68.
3. Average rent per customer is 330 (still under 500).

### City 3: Jaipur

1. Highest number of customers, which is 69.
2. Average rent per customer is very low at 156.
3. Average sales per customer is better at 11.6k.



# *Thank You*

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