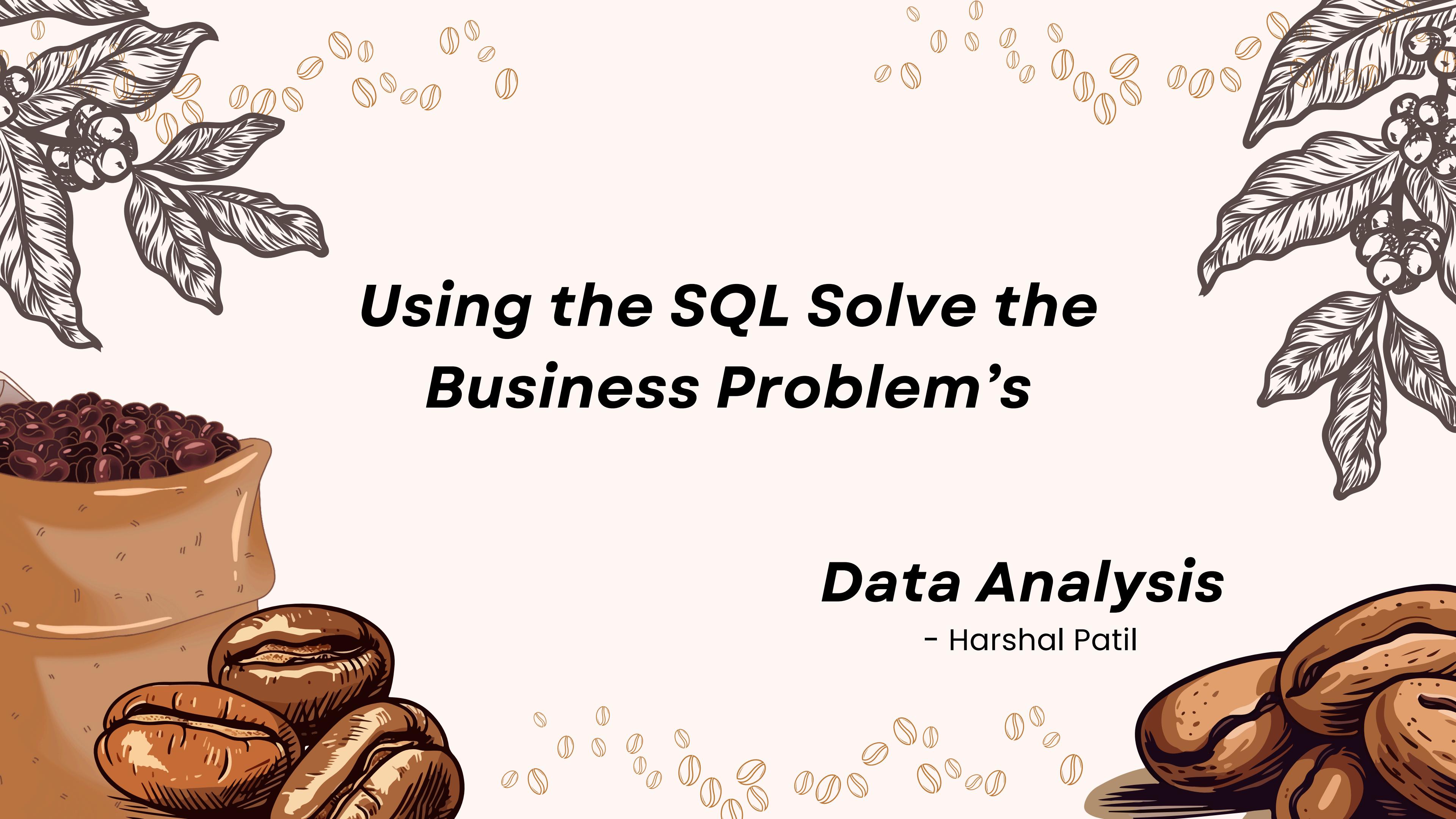


MONDAY COFFEE

Presentation



Using the SQL Solve the Business Problem's

Data Analysis

- Harshal Patil

1. Coffee Consumers Count

Q. 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_in_millions,  
     city_rank  
  FROM city  
 ORDER BY 2 DESC;
```

city_name	coffee_consumers_in_millions	city_rank
Delhi	7.75	3
Mumbai	5.1	2
Kolkata	3.73	7
Bangalore	3.08	1
Chennai	2.78	6
Hyderabad	2.5	4
Ahmedabad	2.08	5
Pune	1.88	9
Surat	1.8	10
Jaipur	1	8
Lucknow	0.95	11
Indore	0.83	14
Kanpur	0.78	12
Nagpur	0.73	13

2..Total Revenue from Coffee Sales

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

```
SELECT city_name, Total_Revenue
FROM
  (SELECT ci.city_name, SUM(s.total) AS Total_Revenue,
    EXTRACT(YEAR FROM s.sale_date) AS sale_year,
    EXTRACT(QUARTER FROM s.sale_date) AS qtr
  FROM sales AS s
  JOIN customers AS c ON s.customer_id = c.customer_id
  JOIN city AS ci ON c.city_id = ci.city_id
  GROUP BY city_name , sale_year , qtr) AS sub
WHERE
  sale_year = 2023 AND qtr = 4
ORDER BY total_revenue DESC;
```

city_name	Total_Revenue
Pune	434330
Chennai	302500
Bangalore	270780
Jaipur	248580
Delhi	238490
Kanpur	71890
Mumbai	71340
Surat	52560
Kolkata	51180
Nagpur	45810
Indore	45670
Hyderabad	45060
Ahmedabad	43560
Lucknow	41550

3.Sales Count for Each Product

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

```
select p.product_name,  
count(s.sale_id) sales_orders  
from products as p  
join sales as s  
on p.product_id = s.product_id  
group by p.product_id, p.product_id  
order by sales_orders desc;
```

product_name	sales_orders
Cold Brew Coffee Pack (6 Bottles)	1326
Ground Espresso Coffee (250g)	1271
Instant Coffee Powder (100g)	1226
Coffee Beans (500g)	1218
Tote Bag with Coffee Design	776
Vanilla Coffee Syrup (250ml)	762
Cold Brew Concentrate (500ml)	312
Organic Green Coffee Beans (500g)	307
Coffee Art Print	296
Flavored Coffee Pods (Pack of 10)	295
Coffee Drip Bags (10 Bags)	289
Insulated Travel Mug	273
Coffee Gift Hamper	270
Specialty Coffee Subscription	258
Customizable Coffee Coaster Set	258
French Press Coffee Set	257
Caramel Syrup (250ml)	96
Coffee Plant Kit (DIY)	91
Coffee Bean Storage Canister	89
Coffee Recipe Book	88
Mocha Flavored Coffee Mix (200g)	86
Personalized Coffee Spoon	83
Coffee-Themed T-Shirt	82
Reusable Coffee Cup (Eco-friendly)	78
Glass Coffee Jar (500ml)	77
Coffee-Themed Notebook	76
Stainless Steel Tumbler	75
Coffee Mug (Ceramic)	73

4. Average Sales Amount per City

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

```
SELECT
    ci.city_name,
    SUM(s.total) Total_Revenue,
    COUNT(DISTINCT s.customer_id) AS total_cx,
    ROUND(SUM(s.total) / COUNT(DISTINCT s.customer_id),0)
AS avg_sales_pr_c
FROM
    city AS ci
        JOIN customers AS c ON ci.city_id = c.city_id
        JOIN sales AS s ON c.customer_id = s.customer_id
GROUP BY ci.city_id , ci.city_name
ORDER BY total_Revenue DESC;
```

city_name	Total_Revenue	total_cx	avg_sales_pr_c
Pune	1258290	52	24198
Chennai	944120	42	22479
Bangalore	860110	39	22054
Jaipur	803450	69	11644
Delhi	750420	68	11036
Mumbai	235000	27	8704
Kanpur	213550	35	6101
Surat	176540	27	6539
Kolkata	171460	28	6124
Nagpur	140050	24	5835
Indore	138590	21	6600
Ahmedabad	137690	23	5987
Hyderabad	131520	21	6263
Lucknow	109400	21	5210

5. City Population and Coffee Consumers

Q. Provide a list of cities along with their populations and estimated coffee consumers.

```
with city_table as
  (select city_name, round( (population * 0.25)/100000, 2)
as coffee_consumers
  from city ),
customer_table as (
  select ci.city_name,
  count( distinct c.customer_id) as unique_cx
  from sales s
  join customers as c on s.customer_id = c.customer_id
  join city as ci on c.city_id = ci.city_id
  group by ci.city_name,c.city_id )
  select ci.city_name, ci.coffee_consumers
  as coffee_consumer_in_million, c.unique_cx
  from city_table as ci
  join customer_table as c on ci.city_name = c.city_name
  order by ci.coffee_consumers desc;
```

city_name	coffee_consumer_in_million	unique_cx
Delhi	77.5	68
Mumbai	51	27
Kolkata	37.25	28
Bangalore	30.75	39
Chennai	27.75	42
Hyderabad	25	21
Ahmedabad	20.75	23
Pune	18.75	52
Surat	18	27
Jaipur	10	69
Lucknow	9.5	21
Indore	8.25	21
Kanpur	7.75	35
Nagpur	7.25	24

6. Top Selling Products by City

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

```
select * from
(
    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 products as p
    join sales as s on p.product_id = s.product_id
    join customers as c on s.customer_id = c.customer_id
    join city as ci on c.city_id = ci.city_id
    group by p.product_name, ci.city_name) as t1
where rank_ <= 3;
```

city_name	product_name	Total_orders	rank_
Ahmedabad	Cold Brew Coffee Pack (6 Bottles)	40	1
Ahmedabad	Coffee Beans (500g)	35	2
Ahmedabad	Instant Coffee Powder (100g)	26	3
Bangalore	Cold Brew Coffee Pack (6 Bottles)	197	1
Bangalore	Ground Espresso Coffee (250g)	167	2
Bangalore	Instant Coffee Powder (100g)	150	3
Chennai	Cold Brew Coffee Pack (6 Bottles)	192	1
Chennai	Coffee Beans (500g)	181	2
Chennai	Instant Coffee Powder (100g)	172	3
Delhi	Ground Espresso Coffee (250g)	183	1
Delhi	Instant Coffee Powder (100g)	170	2
Delhi	Coffee Beans (500g)	161	3
Hyderabad	Instant Coffee Powder (100g)	36	1
Hyderabad	Cold Brew Coffee Pack (6 Bottles)	28	2
Hyderabad	Ground Espresso Coffee (250g)	27	3
Indore	Instant Coffee Powder (100g)	33	1
Indore	Cold Brew Coffee Pack (6 Bottles)	26	2
Indore	Ground Espresso Coffee (250g)	26	2
Indore	Coffee Beans (500g)	23	3
Jaipur	Cold Brew Coffee Pack (6 Bottles)	178	1
Jaipur	Coffee Beans (500g)	175	2
Jaipur	Instant Coffee Powder (100g)	170	3
Kanpur	Cold Brew Coffee Pack (6 Bottles)	57	1
Kanpur	Ground Espresso Coffee (250g)	55	2
Kanpur	Coffee Beans (500g)	50	3
Kolkata	Ground Espresso Coffee (250g)	45	1
Kolkata	Cold Brew Coffee Pack (6 Bottles)	44	2
Kolkata	Coffee Beans (500g)	38	3
Lucknow	Instant Coffee Powder (100g)	28	1
Lucknow	Coffee Beans (500g)	25	2
Lucknow	Cold Brew Coffee Pack (6 Bottles)	23	3
Lucknow	Ground Espresso Coffee (250g)	23	3
Mumbai	Ground Espresso Coffee (250g)	62	1
Mumbai	Instant Coffee Powder (100g)	60	2
Mumbai	Cold Brew Coffee Pack (6 Bottles)	53	3
Nagpur	Ground Espresso Coffee (250g)	39	1
Nagpur	Instant Coffee Powder (100g)	29	2
Nagpur	Cold Brew Coffee Pack (6 Bottles)	28	3
Nagpur	Coffee Beans (500g)	28	3
Pune	Cold Brew Coffee Pack (6 Bottles)	259	1
Pune	Ground Espresso Coffee (250g)	254	2
Pune	Instant Coffee Powder (100g)	245	3
Surat	Coffee Beans (500g)	48	1
Surat	Cold Brew Coffee Pack (6 Bottles)	45	2
Surat	Ground Espresso Coffee (250g)	41	3

7. Customer Segmentation by City

Q. 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  
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 ci.city_name;
```

city_name	unique_cx
Ahmedabad	23
Bangalore	39
Chennai	42
Delhi	68
Hyderabad	21
Indore	21
Jaipur	69
Kanpur	35
Kolkata	28
Lucknow	21
Mumbai	27
Nagpur	24
Pune	52
Surat	27

8.Average Sale vs Rent

Q. Find each city and their average sale per customer and avg rent per customer

with city_table as

```
(SELECT
    ci.city_name,
    SUM(s.total) Total_Revenue,
    COUNT(DISTINCT s.customer_id) AS total_cx,
    ROUND(SUM(s.total) / COUNT(DISTINCT s.customer_id),0)
    AS avg_sales_pr_c
FROM city AS ci
    JOIN customers AS c ON ci.city_id = c.city_id
    JOIN sales AS s ON c.customer_id = s.customer_id
GROUP BY ci.city_id , ci.city_name
ORDER BY total_Revenue DESC),
city_rent as
( select city_name, estimated_rent
from city)
select cr.city_name,
    cr.estimated_rent,
    ct.total_cx,
    ct.avg_sales_pr_c,
    round( cr.estimated_rent/ct.total_cx, 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 avg_rent_per_cx desc;
```

city_name	estimated_rent	total_cx	avg_sales_pr_c	avg_rent_per_cx
Mumbai	31500	27	8704	1166.67
Hyderabad	22500	21	6263	1071.43
Bangalore	29700	39	22054	761.54
Ahmedabad	14400	23	5987	626.09
Kolkata	16200	28	6124	578.57
Surat	13500	27	6539	500
Lucknow	9000	21	5210	428.57
Chennai	17100	42	22479	407.14
Delhi	22500	68	11036	330.88
Nagpur	7200	24	5835	300
Indore	6300	21	6600	300
Pune	15300	52	24198	294.23
Kanpur	8100	35	6101	231.43
Jaipur	10800	69	11644	156.52

9. Monthly Sales Growth

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

with month_sales as

```
( select
ci.city_name,
EXTRACT(month from s.sale_date) as month_,
EXTRACT(year from s.sale_date) as year_,
sum(s.total) as total_sales
from sales as s
join customers as c on s.customer_id = c.customer_id
join city as ci on c.city_id = ci.city_id
group by 1,2,3
order by 1,3,2 ),
growth_ratio as
(select
city_name,
month_,
year_,
total_sales as cr_month_sale,
lag(total_sales, 1) over( partition by city_name order by year_, month_)
as last_month_sales
from month_sales)
select
city_name,
month_,
year_,
cr_month_sale,
last_month_sales,
ROUND(
(cr_month_sale - last_month_sales)/ last_month_sales * 100,2) as Growth ration
from growth_ratio
where last_month_sales is not null;
```

city_name	month_	year_	cr_month_sale	last_month_sales	Growth ration
Ahmedabad	2	2023	4100	3750	9.33
Ahmedabad	3	2023	3050	4100	-25.61
Ahmedabad	4	2023	4040	3050	32.46
Ahmedabad	5	2023	2550	4040	-36.88
Ahmedabad	6	2023	2900	2550	13.73
Ahmedabad	7	2023	2800	2900	-3.45
Ahmedabad	8	2023	4300	2800	53.57
Ahmedabad	9	2023	8250	4300	91.86
Ahmedabad	10	2023	10950	8250	32.73
Ahmedabad	11	2023	21250	10950	94.06
Ahmedabad	12	2023	11360	21250	-46.54
Ahmedabad	1	2024	12090	11360	6.43
Ahmedabad	2	2024	10900	12090	-9.84
Ahmedabad	3	2024	14000	10900	28.44
Ahmedabad	4	2024	3950	14000	-71.79
Ahmedabad	5	2024	5250	3950	32.91
Ahmedabad	6	2024	3300	5250	-37.14
Ahmedabad	7	2024	2700	3300	-18.18
Ahmedabad	8	2024	3550	2700	31.48
Ahmedabad	9	2024	2650	3550	-25.35

10. Market Potential Analysis

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

```

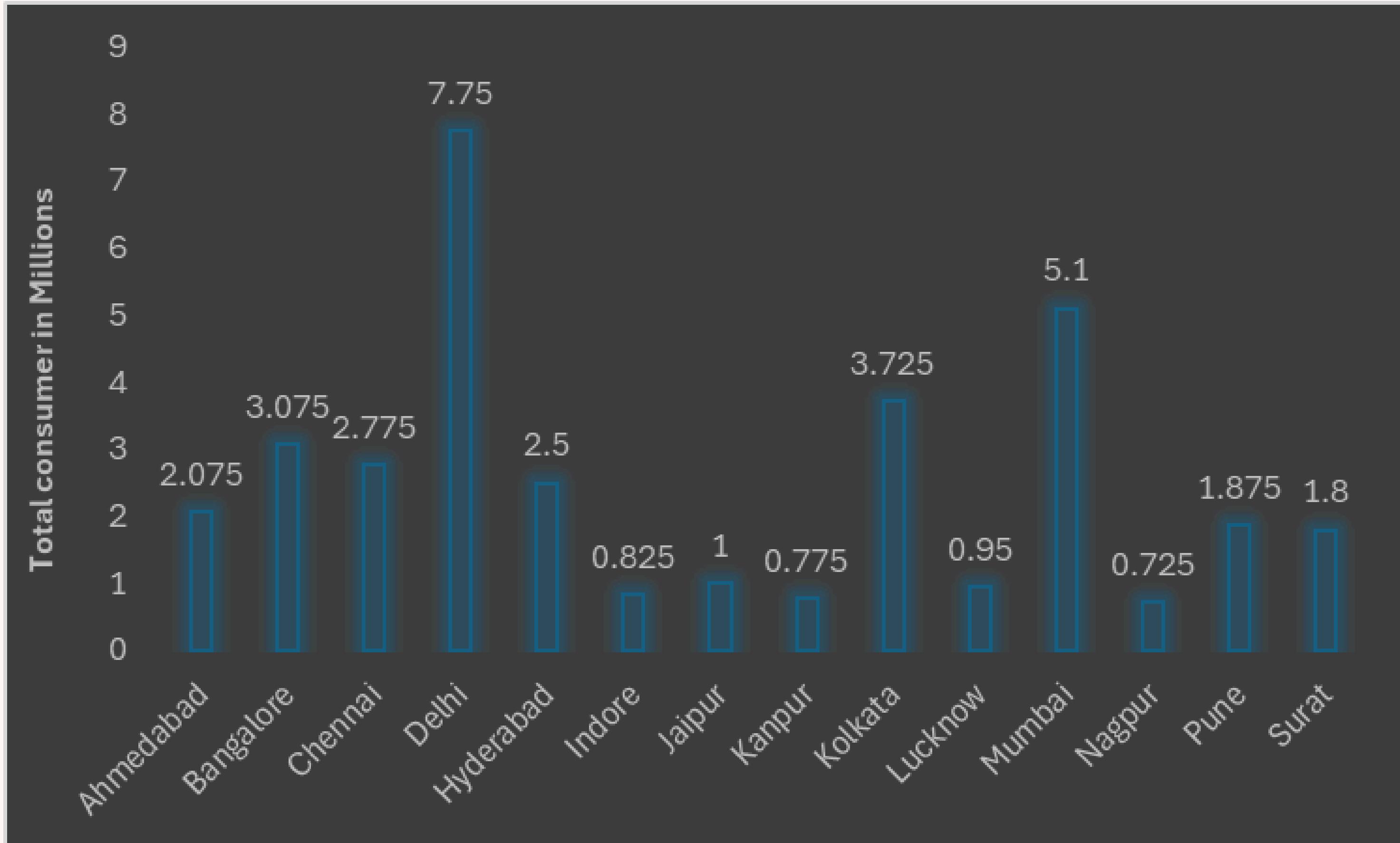
WITH city_table
AS
(SELECT
ci.city_name,
SUM(s.total) as total_revenue,
COUNT(DISTINCT s.customer_id) as total_cx,
ROUND(
SUM(s.total)/
COUNT(DISTINCT s.customer_id),2) as avg_sale_pr_cx
FROM sales as s
JOIN customers as c
ON s.customer_id = c.customer_id
JOIN city as ci
ON ci.city_id = c.city_id
GROUP BY1
ORDER BY 2 DESC),
city_rent
AS (SELECT
city_name,
estimated_rent,
ROUND((population * 0.25)/1000000, 3)
as estimated_coffee_consumer_in_millions
FROM city
)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/ct.total_cx, 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 2 DESC;

```

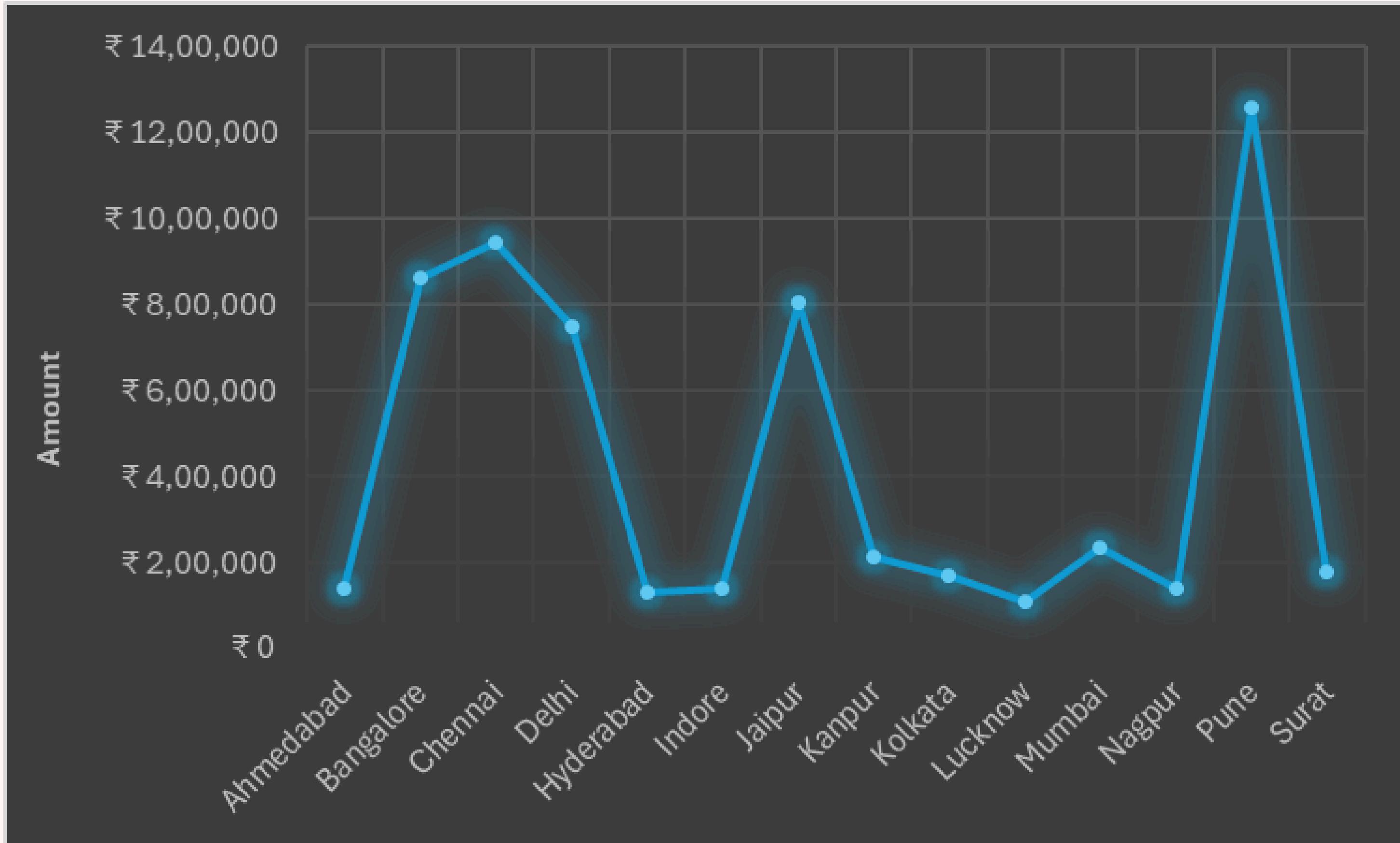
city_name	total_revenue	total_rent	total_cx	estimated_coffee_consumer_in_millions	avg_sale_pr_cx	avg_rent_per_cx
Pune	1258290	15300	52	1.875	24197.88	294.23
Chennai	944120	17100	42	2.775	22479.05	407.14
Bangalore	860110	29700	39	3.075	22054.1	761.54
Jaipur	803450	10800	69	1	11644.2	156.52
Delhi	750420	22500	68	7.75	11035.59	330.88
Mumbai	235000	31500	27	5.1	8703.7	1166.67
Kanpur	213550	8100	35	0.775	6101.43	231.43
Surat	176540	13500	27	1.8	6538.52	500
Kolkata	171460	16200	28	3.725	6123.57	578.57
Nagpur	140050	7200	24	0.725	5835.42	300
Indore	138590	6300	21	0.825	6599.52	300
Ahmedabad	137690	14400	23	2.075	5986.52	626.09
Hyderabad	131520	22500	21	2.5	6262.86	1071.43
Lucknow	109400	9000	21	0.95	5209.52	428.57



- Overview of coffee consumption in the city.



- Overview of Coffee Sales Revenue in the City



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

See you next time