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Online Food Delivery SQL Project

DOMAIN: E-COMMERECE

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Objective

To analyze restaurant ordering data and generate insightful SQL-based reports that identify customer behavior, sales trends, and performance metrics — enabling data-driven decisions such as recognizing top-spending customers, high-demand menu items, and underperforming restaurants.

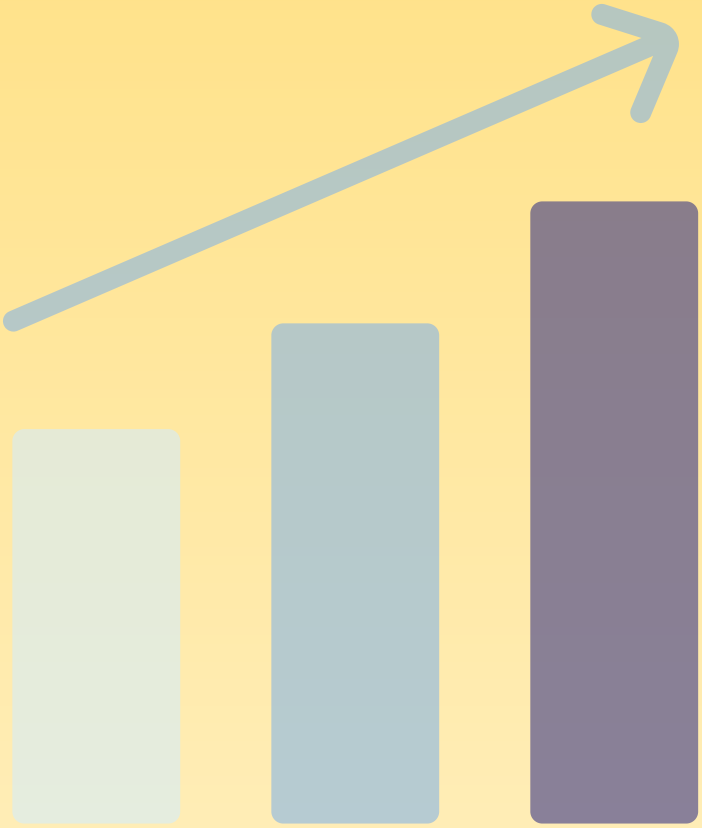
Dataset Description

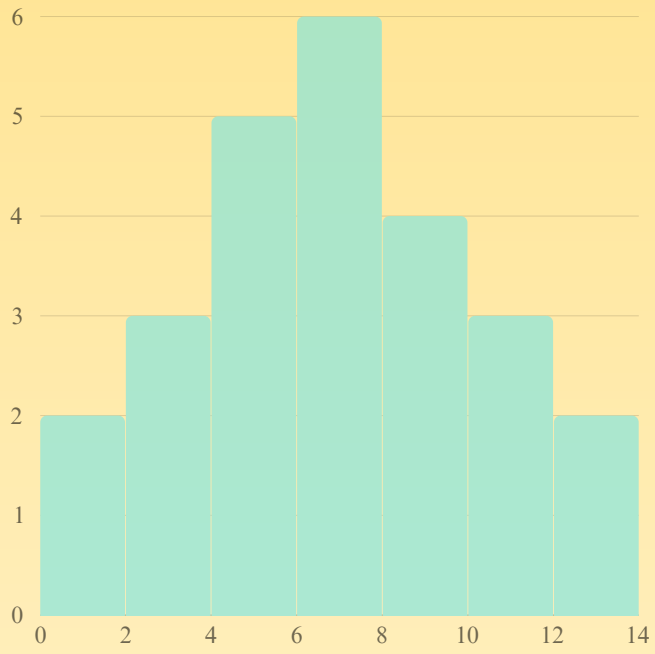
Name: Online Food Delivery Dataset

Number of Tables: 5

Total Rows: Approx. 800

Table Name	Description
customers	Customer details like ID, name, city,sign_up_date
orders	Order-level details like date, rest_id, cust_id, order_date
order_details	order_detail_id, order_id,item_id, quantity
Menu_item	Consists of item_id, rest_id, item_name and price
Restaurant	Restaurant details like id, name, city and register details





ER Diagram

Primary and Foreign Keys Relationships

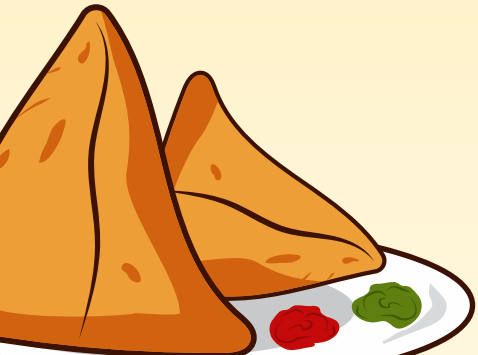
Q1: Total Orders by City

```sql
_1_ Total_order_per_city

SELECT r.city, COUNT(o.order_id) AS total_orders
FROM orders o
JOIN restaurant r ON o.restraunt_id = r.restraunt_id
GROUP BY r.city
ORDER BY total_orders DESC;
```

Result Grid | Filter Rows:

city	total_orders
Jaipur	290
Hyderabad	197
Delhi	184
Surat	166
Pune	166
Chennai	162



Q2: Revenue generated by food items

```
__2_Revenue_generated_by_each_food_item

SELECT m.item_name, SUM(m.price * od.quantity) AS total_revenue
FROM menu_item m
JOIN order_details od ON m.item_id = od.item_id
GROUP BY m.item_name
ORDER BY total_revenue DESC;
```

item_name	total_revenue
Aloo Paratha	232477.77
Fish Curry	212755.37
Hakka Noodles	205411.68
Momos	203851.14
Paneer Tikka	185606.53
Paneer Butter Masala	168535.39

Q3: Top 5 spending customers

```
__3_Top_5_spending_customers

SELECT c.customer_id, c.customer_name, SUM(m.price * od.quantity) AS total_spent
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_details od ON o.order_id = od.order_id
JOIN menu_item m ON od.item_id = m.item_id
GROUP BY c.customer_id, c.customer_name
ORDER BY total_spent DESC
LIMIT 5;
```

Result Grid | Filter Rows:

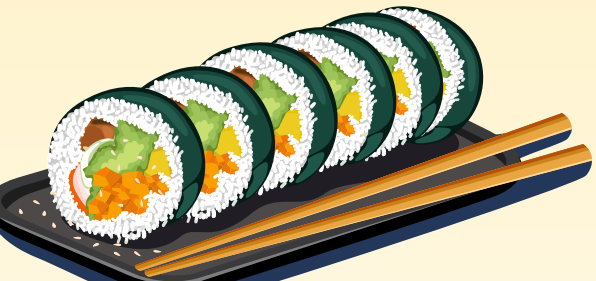
customer_id	customer_name	total_spent
213	Reyansh Patel	19783.83
7	Vihaan Nair	19481.05
191	Krishna Nair	18964.17
336	Ishaan Sharma	18059.30
120	Ishaan Singh	17969.78

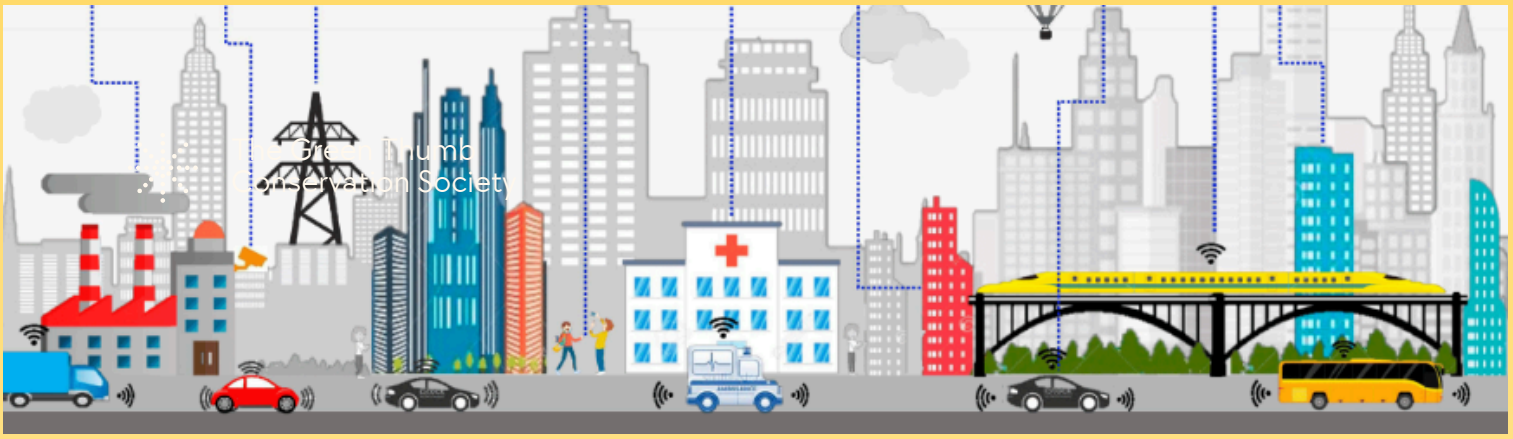
Q4: Restaurant wise order count

```
-- 4 Restaurant wise order count

SELECT r.restraunt_name, COUNT(o.order_id) AS total_orders
FROM restaurant r
JOIN orders o ON r.restraunt_id = o.restraunt_id
GROUP BY r.restraunt_name
ORDER BY total_orders DESC;
```

restraunt_name	total_orders
Golden Garden	90
Spice Palace	71
Tasty Bistro	68
Big Table	66
Flavors Corner	61
Royal Garden	59





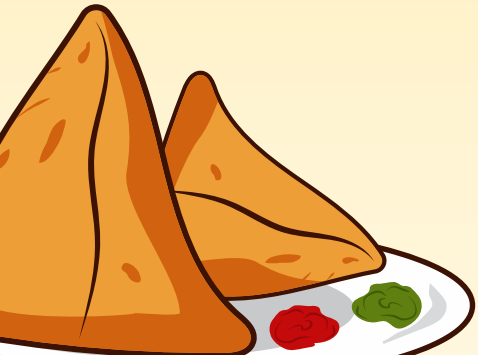
Q5: Average order value by city

```sql
_1_ Total_order_per_city

SELECT r.city, COUNT(o.order_id) AS total_orders
FROM orders o
JOIN restaurant r ON o.restraunt_id = r.restraunt_id
GROUP BY r.city
ORDER BY total_orders DESC;
```

Result Grid | Filter Rows:

city	total_orders
Jaipur	290
Hyderabad	197
Delhi	184
Surat	166
Pune	166
Chennai	162

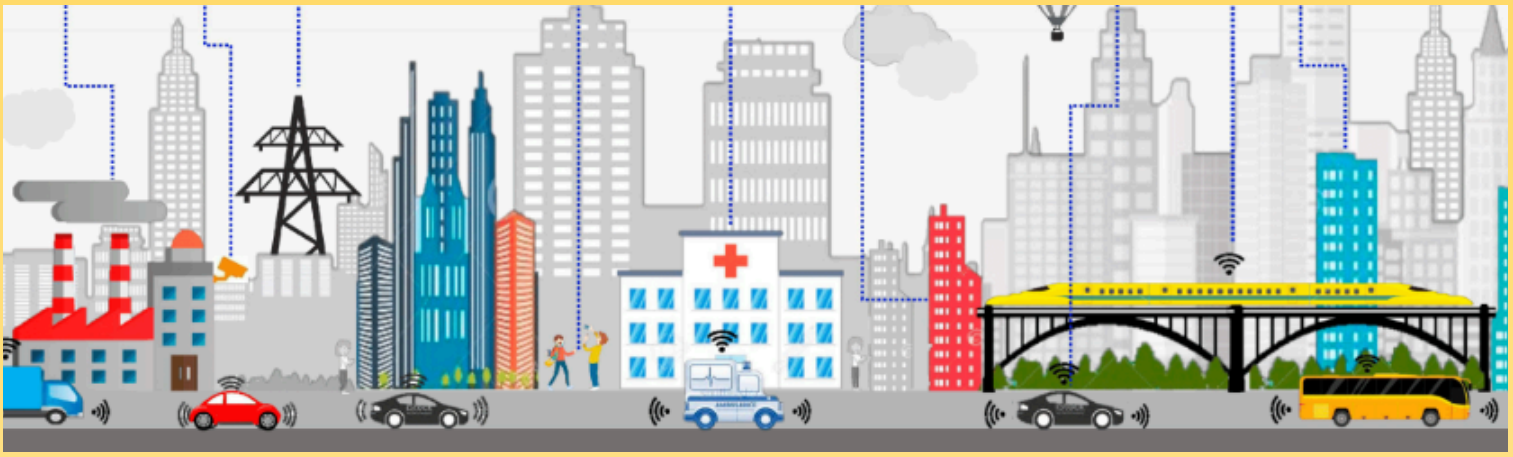


Q6: Monthly_order_trends

```sql
-- 1 Monthly order trends

SELECT MONTH(order_date) AS month_number,
       MONTHNAME(order_date) AS order_month,
       COUNT(order_id) AS total_orders
FROM orders
GROUP BY MONTH(order_date), MONTHNAME(order_date)
ORDER BY month_number;
```

month_number	order_month	total_orders
1	January	145
2	February	137
3	March	143
4	April	142
5	May	152
6	June	147



Q7: Top 3 cities by revenue

```sql
__2__Top_3_cities_by_revenue

SELECT c.city, SUM(m.price * od.quantity) AS total_revenue
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_details od ON o.order_id = od.order_id
JOIN menu_item m ON od.item_id = m.item_id
GROUP BY c.city
ORDER BY total_revenue DESC
LIMIT 3;
```

city	total_revenue
Chennai	349264.89
Pune	305873.68
Bangalore	299747.65

Q8: Numbers of unique customers per city

```sql
-- 3. Numbers_of_unique_customers_per_city

SELECT city, COUNT(DISTINCT customer_id) AS unique_customers
FROM customers
GROUP BY city;
```

	city	unique_customers
▶	Ahmedabad	58
	Bangalore	47
	Chennai	56
	Delhi	49
	Hyderabad	43
	Jaipur	39

Q9: Most Frequently ordered items

```sql
SELECT m.item_name, COUNT(od.item_id) AS total_orders
FROM menu_item m
JOIN order_details od
ON m.item_id = od.item_id
GROUP BY m.item_name
ORDER BY total_orders DESC;
```

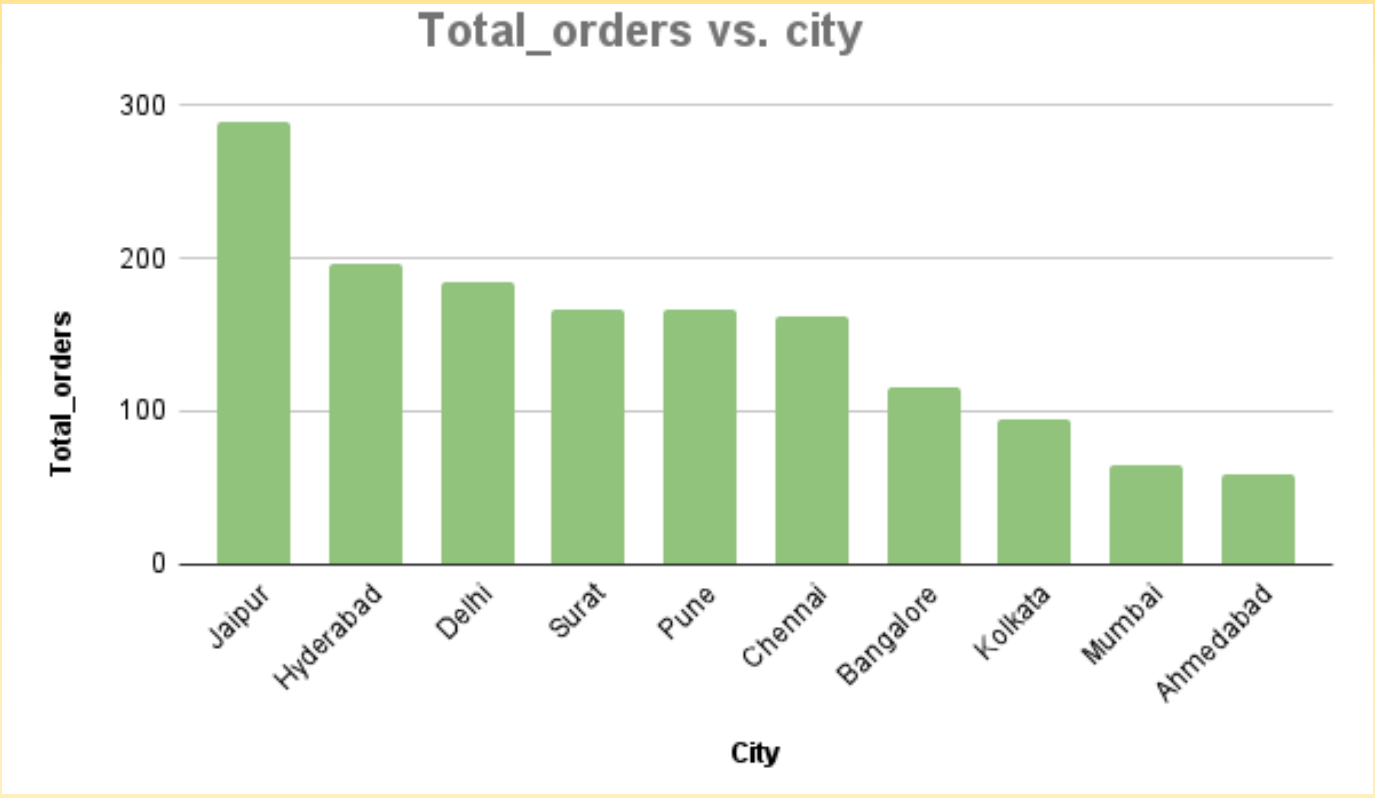
item_name	total_orders
Fish Curry	205
Momos	197
Aloo Paratha	188
Paneer Tikka	183
Hakka Noodles	169
Paneer Butter Masala	162

Q10: Restaurants with low order counts

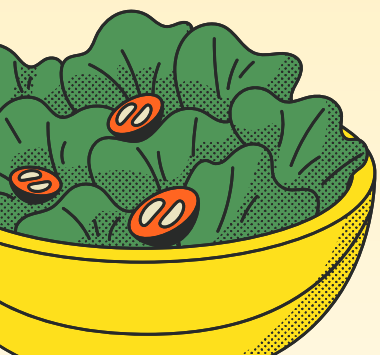
```sql
SELECT r.restraunt_name, COUNT(o.order_id) AS total_orders
FROM restaurant r
JOIN orders o
  ON r.restraunt_id = o.restraunt_id
GROUP BY r.restraunt_name
HAVING COUNT(o.order_id) < 30;
```

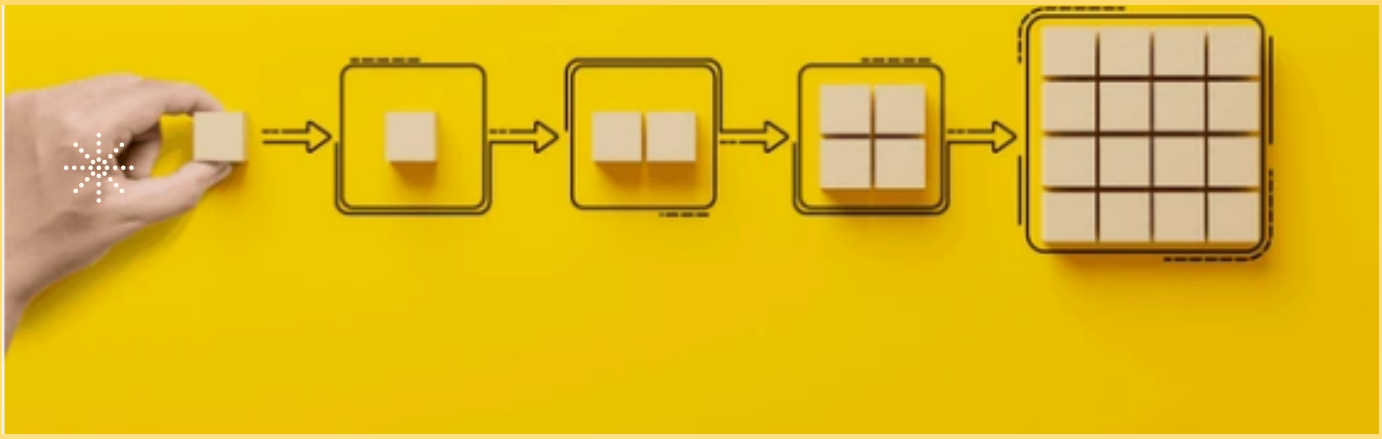
restraunt_name	total_orders
Flavors Palace	22
Royal Corner	24
Golden Diner	14
Royal Kitchen	19
Big Corner	26
Golden Kitchen	26

Visualization & Insights

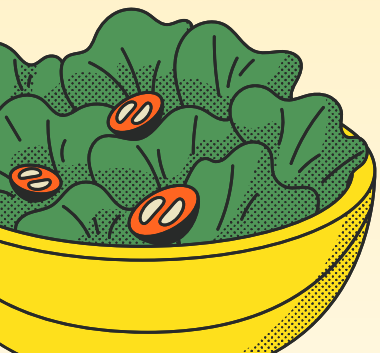


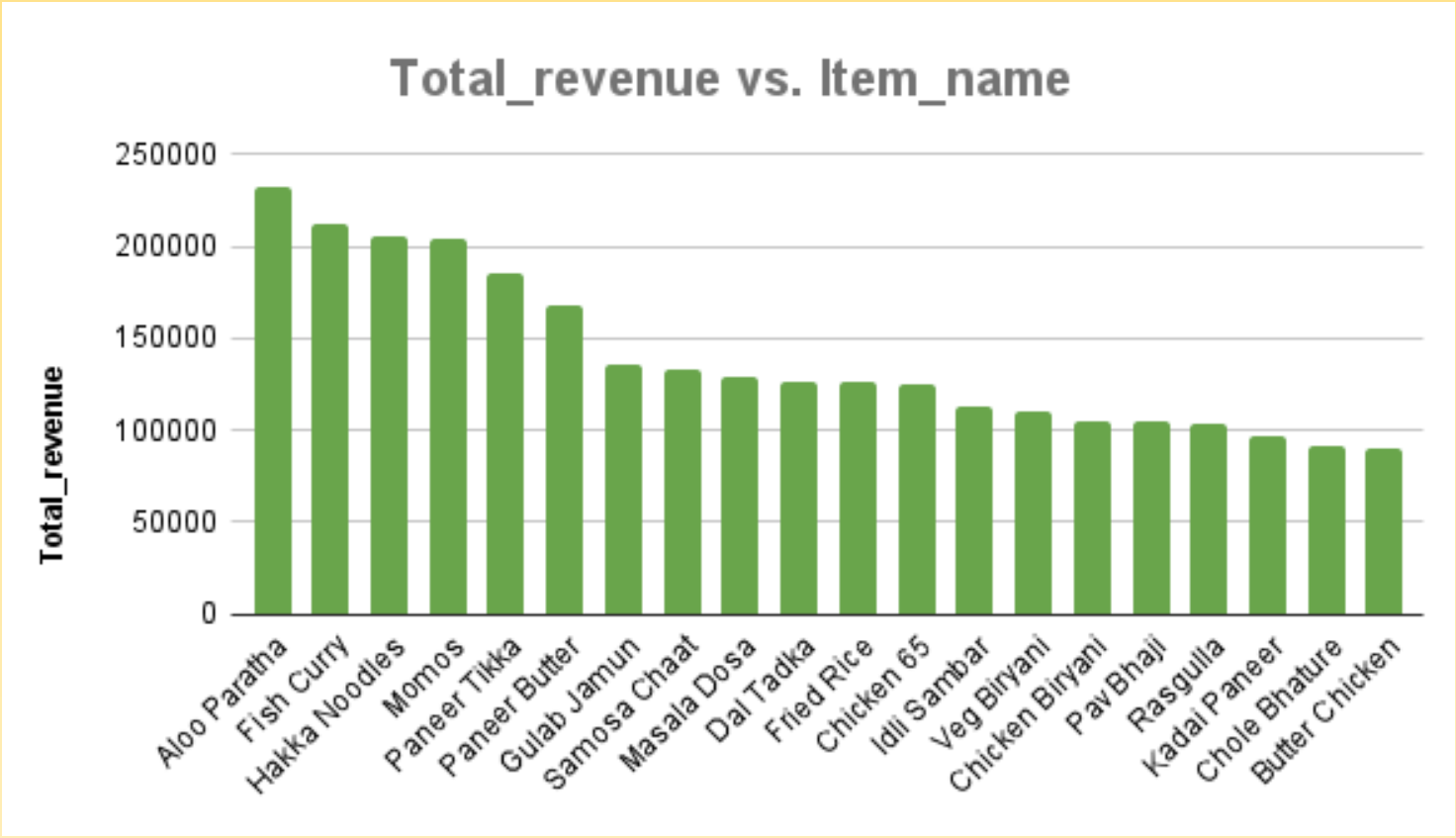
- **City Jaipur, Hyderabad and Delhi leads in orders, showing highest demand. Mid-tier cities have growth potential, while low-order cities may need marketing or service improvements.**



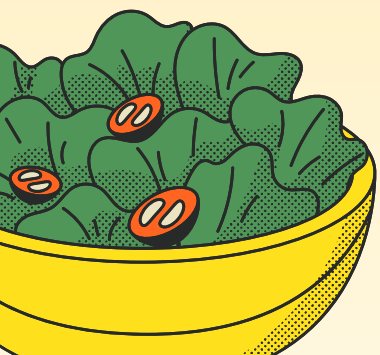


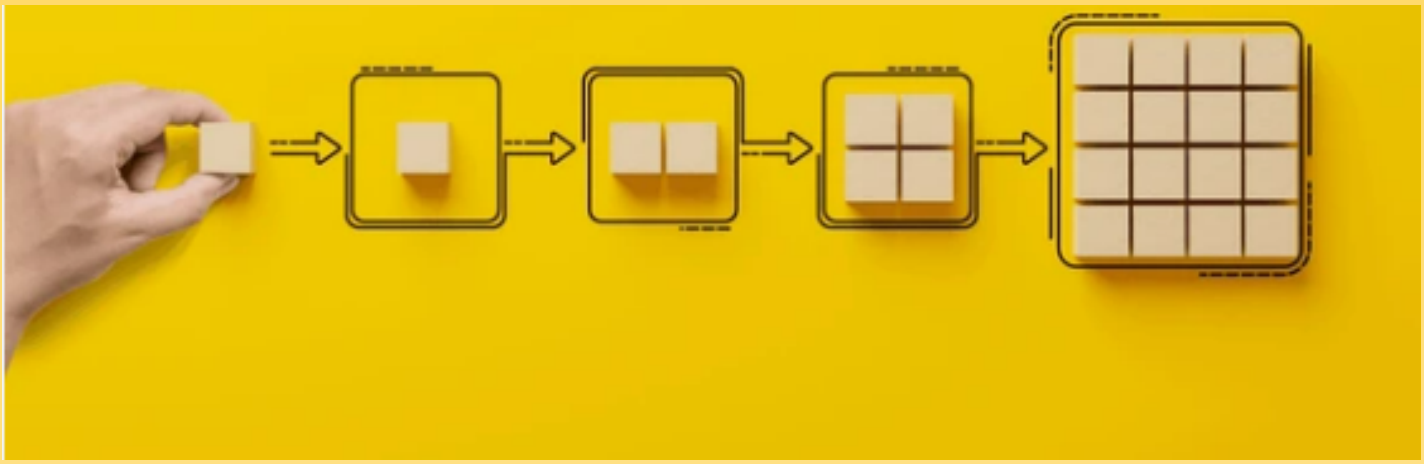
- **The data shows clear monthly fluctuations in total orders, with certain months experiencing higher demand.**
- **These peaks suggest seasonal trends, while the lower months indicate periods where targeted marketing or discounts could help increase sales.**

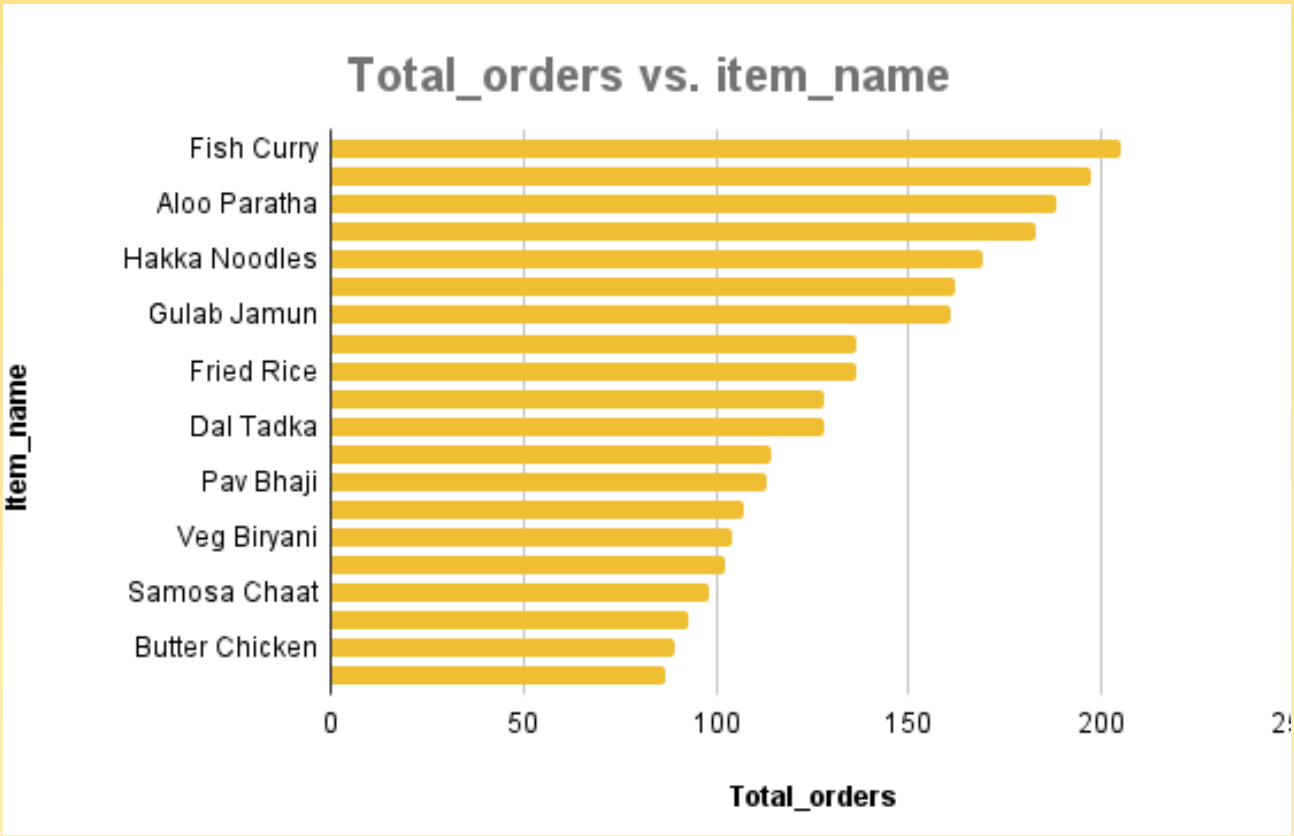




- **The analysis shows which menu items generate the highest revenue, with a few top-selling items contributing the most to overall earnings.**
- **Lower-revenue items may need promotions or menu optimization to improve their performance.**







- Identifies the most frequently ordered menu items, showing clear customer preferences.
- Highlights low-demand items that may need promotion or reconsideration.
- Helps in optimizing inventory and menu offerings based on demand trends.
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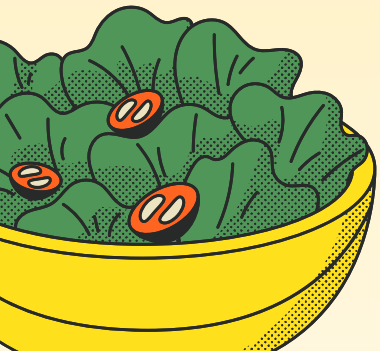
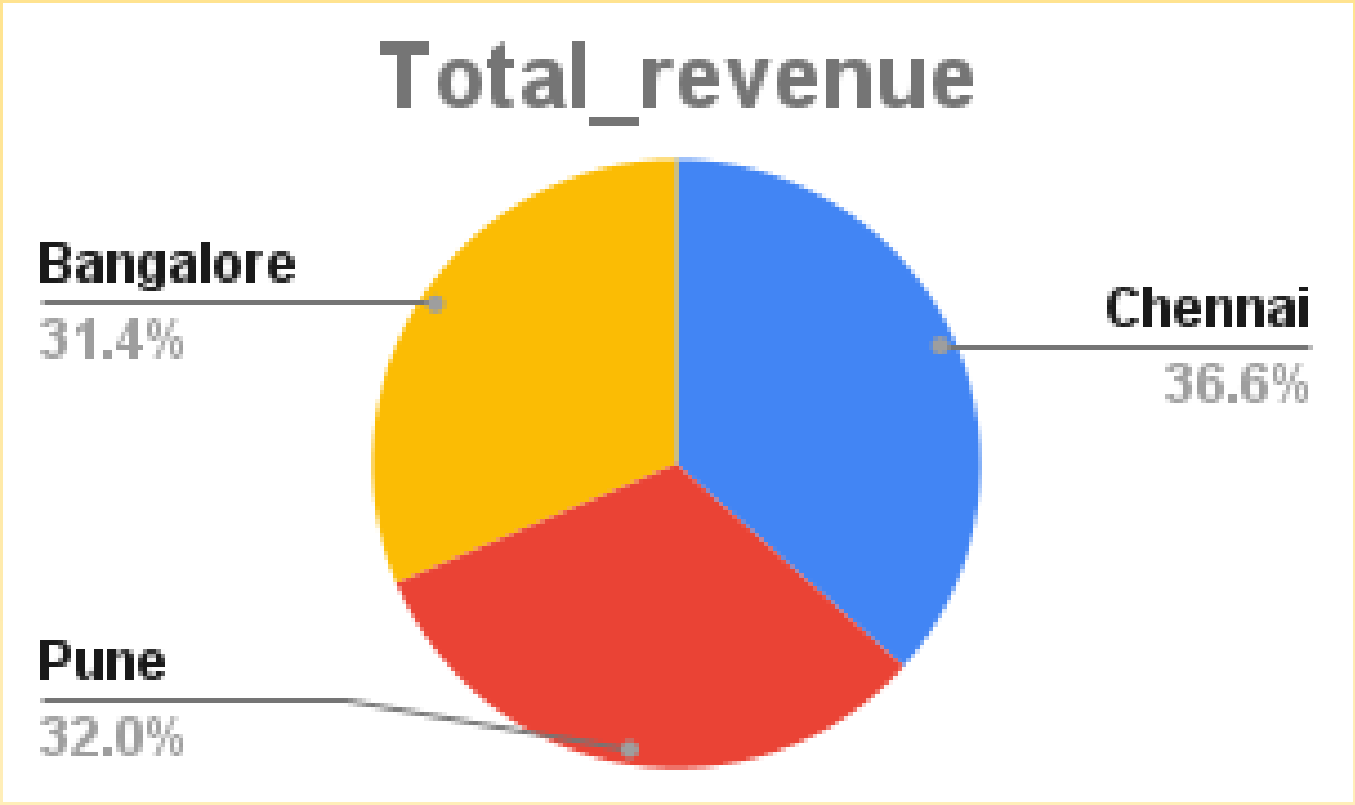
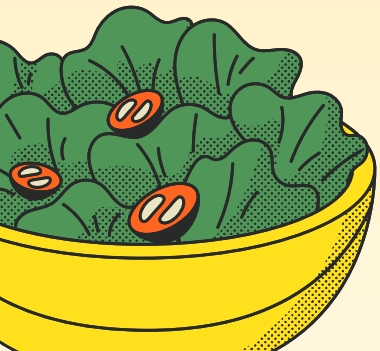
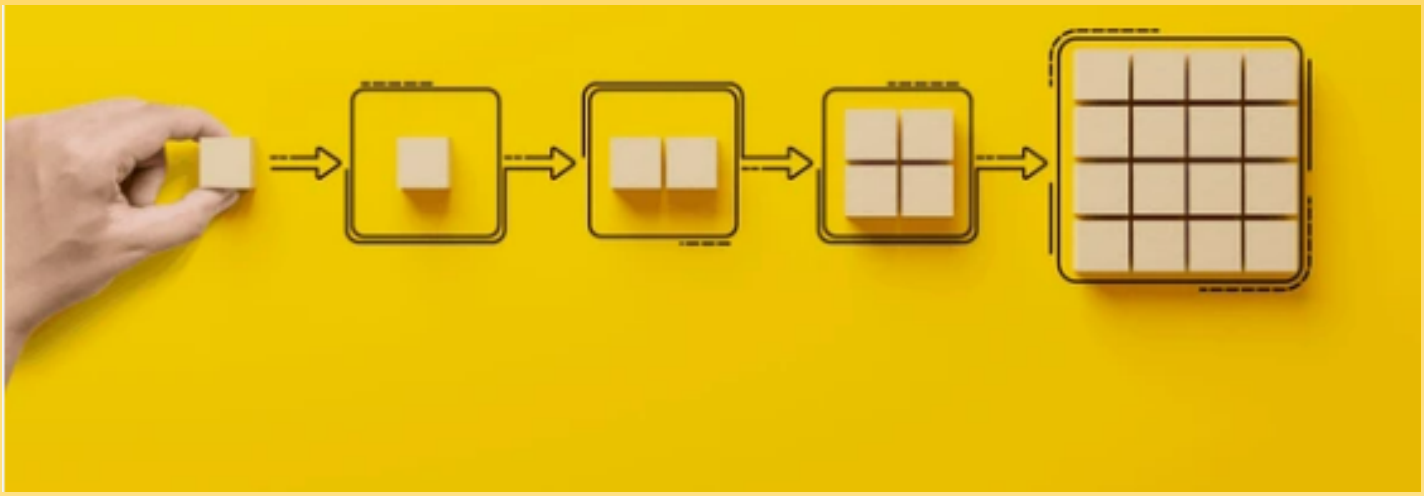
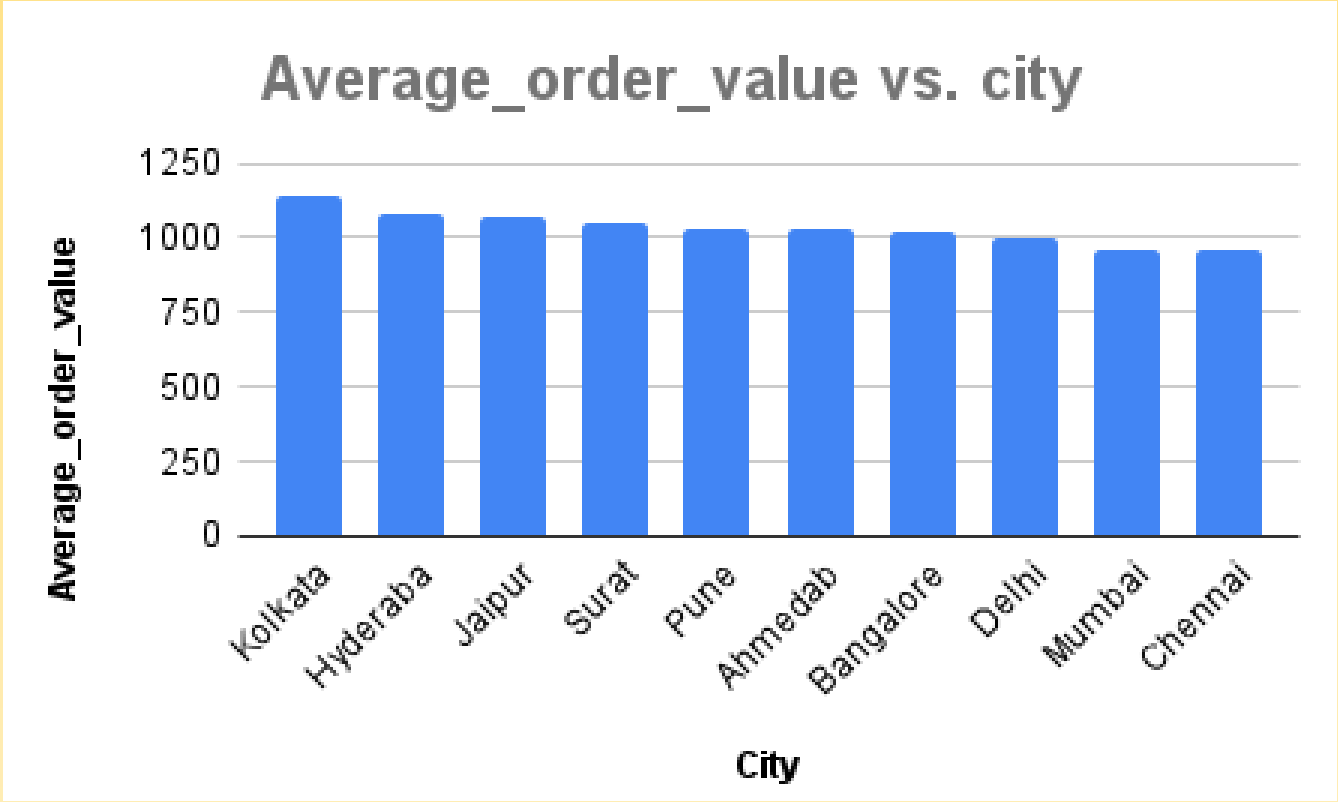




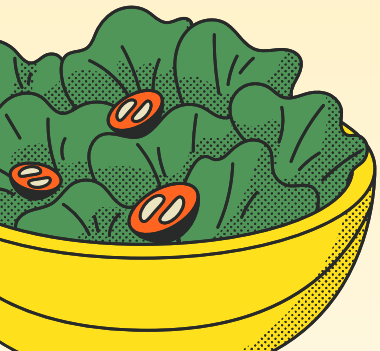
- Shows the overall earnings generated from all orders.
- Helps measure the business's financial performance over time.
- Useful for tracking growth and setting revenue targets.

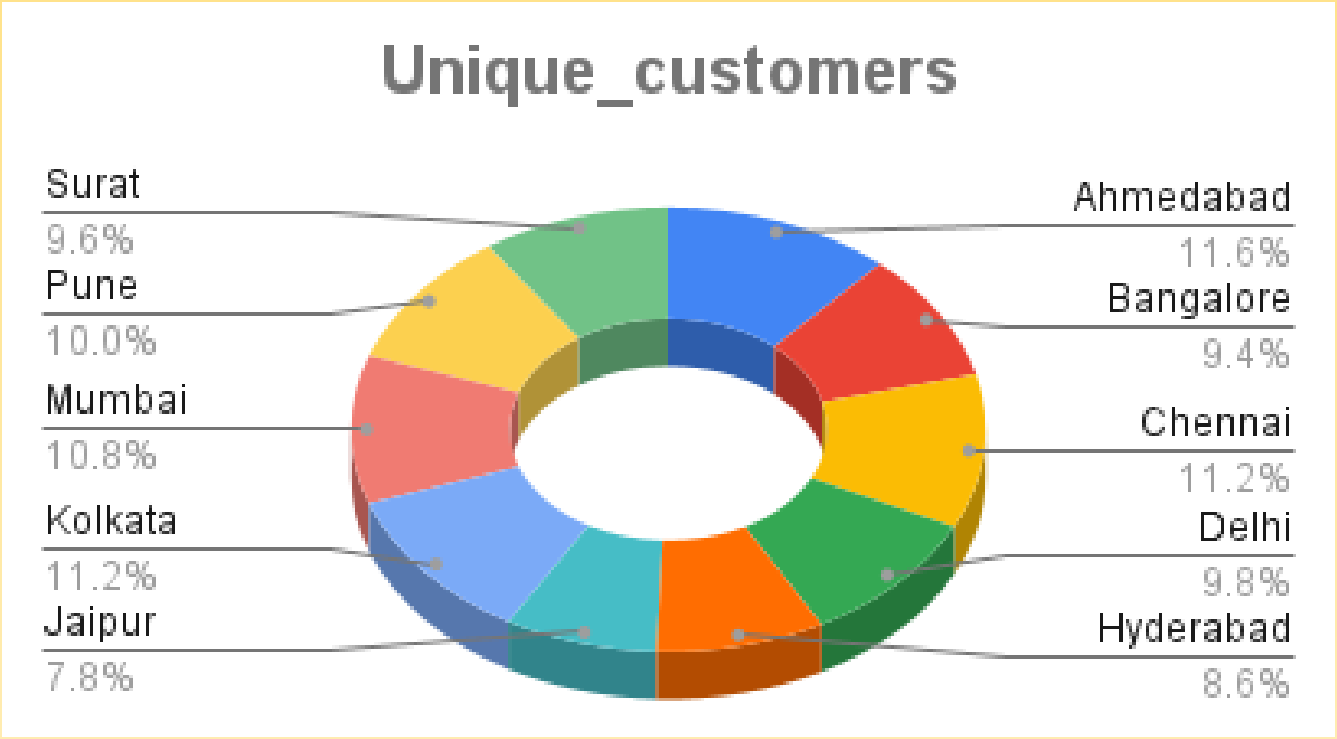




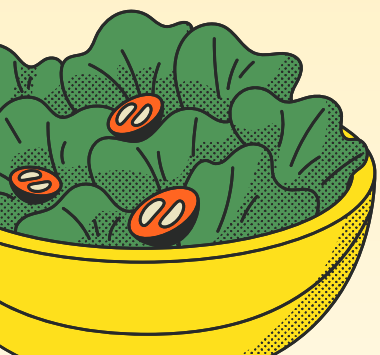


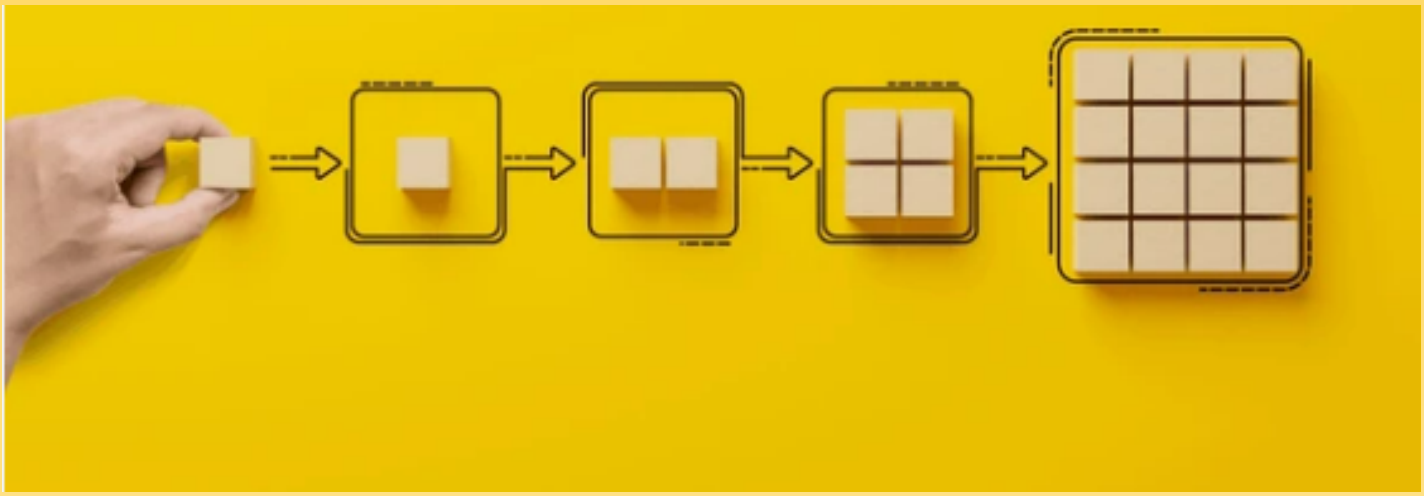
- Compares the average amount spent per order across different cities.
- Identifies cities with higher spending habits, helping target premium offerings.
- Useful for strategic pricing and location-based marketing.

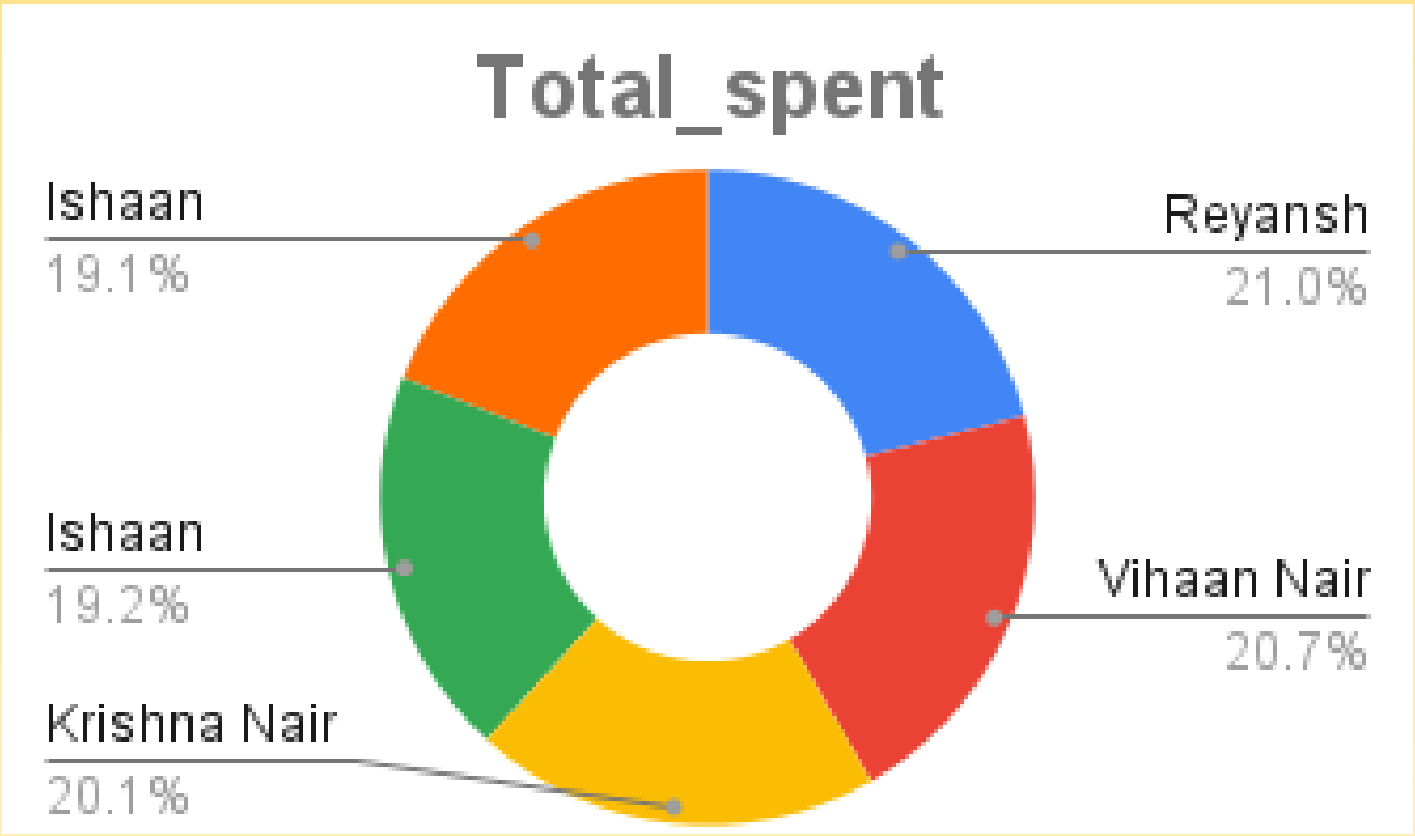




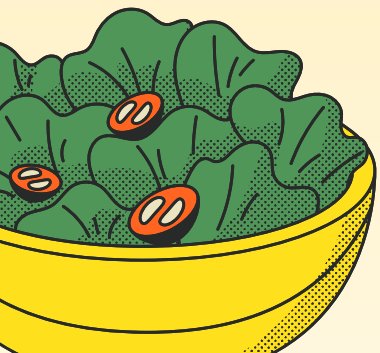
- Shows how many distinct customers are present in the highest-revenue cities.
- Helps identify cities with strong customer bases.
- Useful for targeting regional marketing efforts.

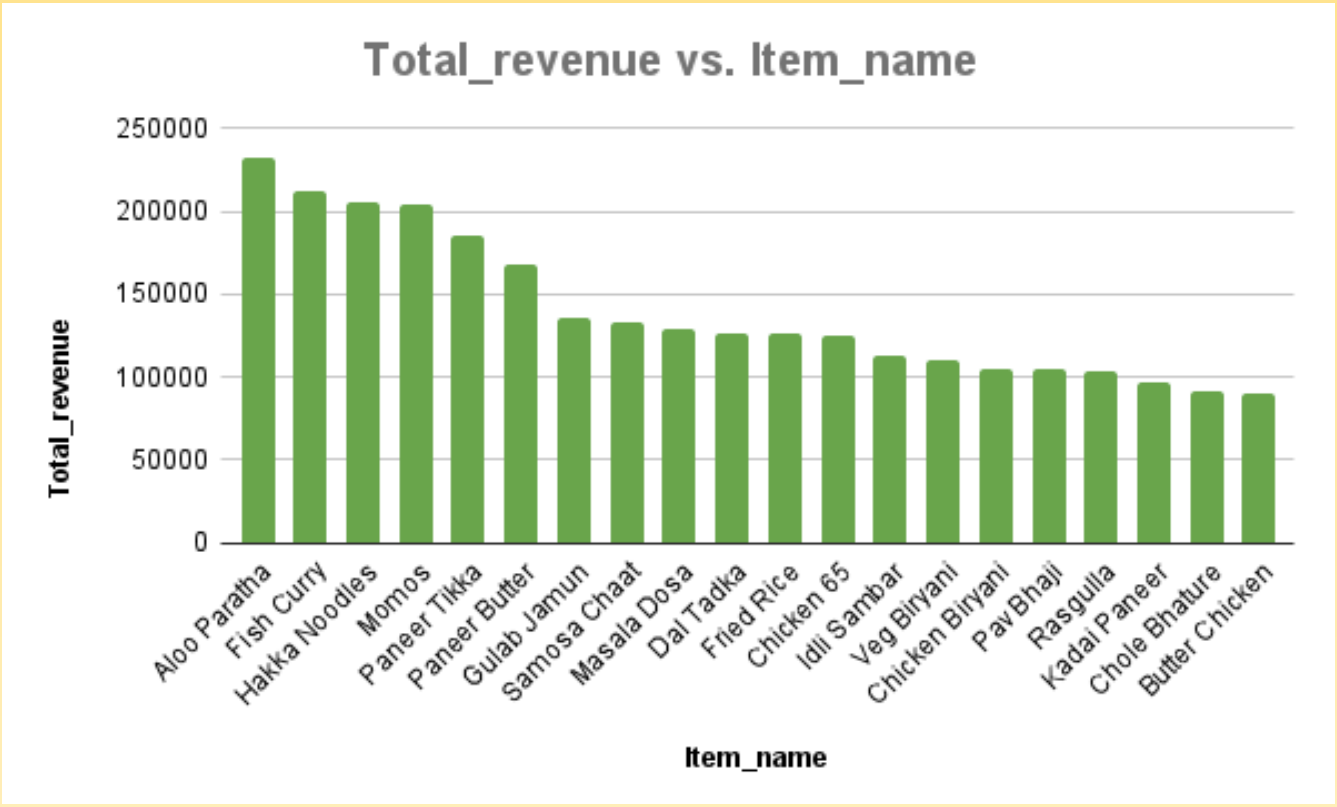




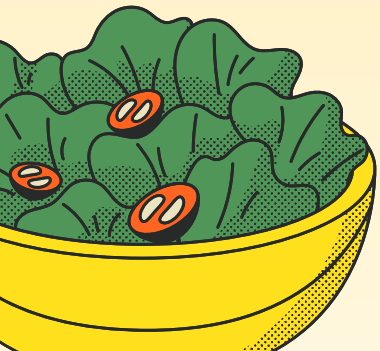


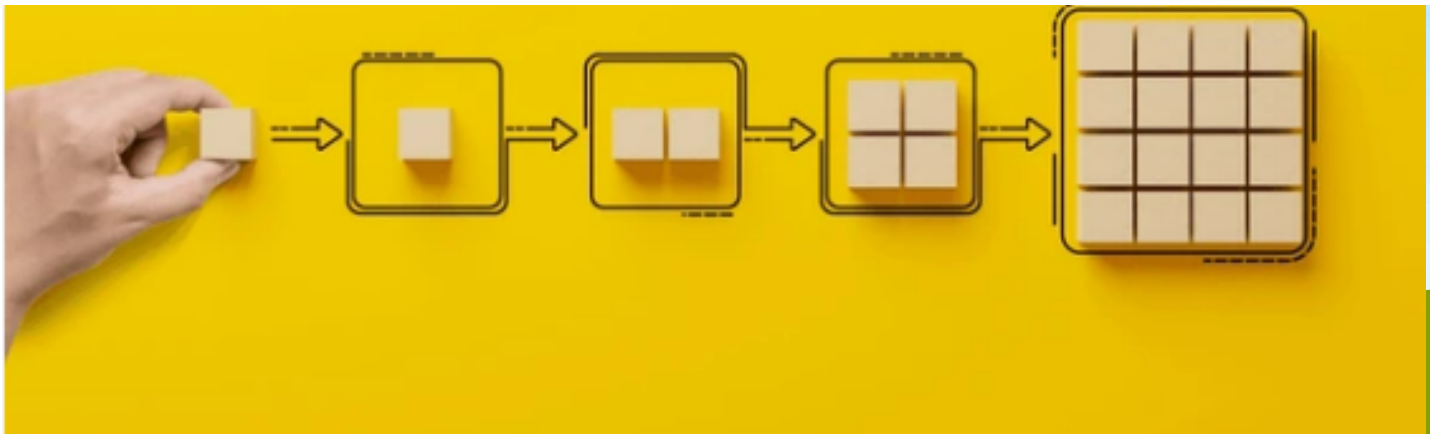
- **Highlights the top 5 customers contributing the most to revenue.**
- **Useful for identifying and retaining high-value customers.**
- **Can guide personalized marketing and loyalty strategies.**

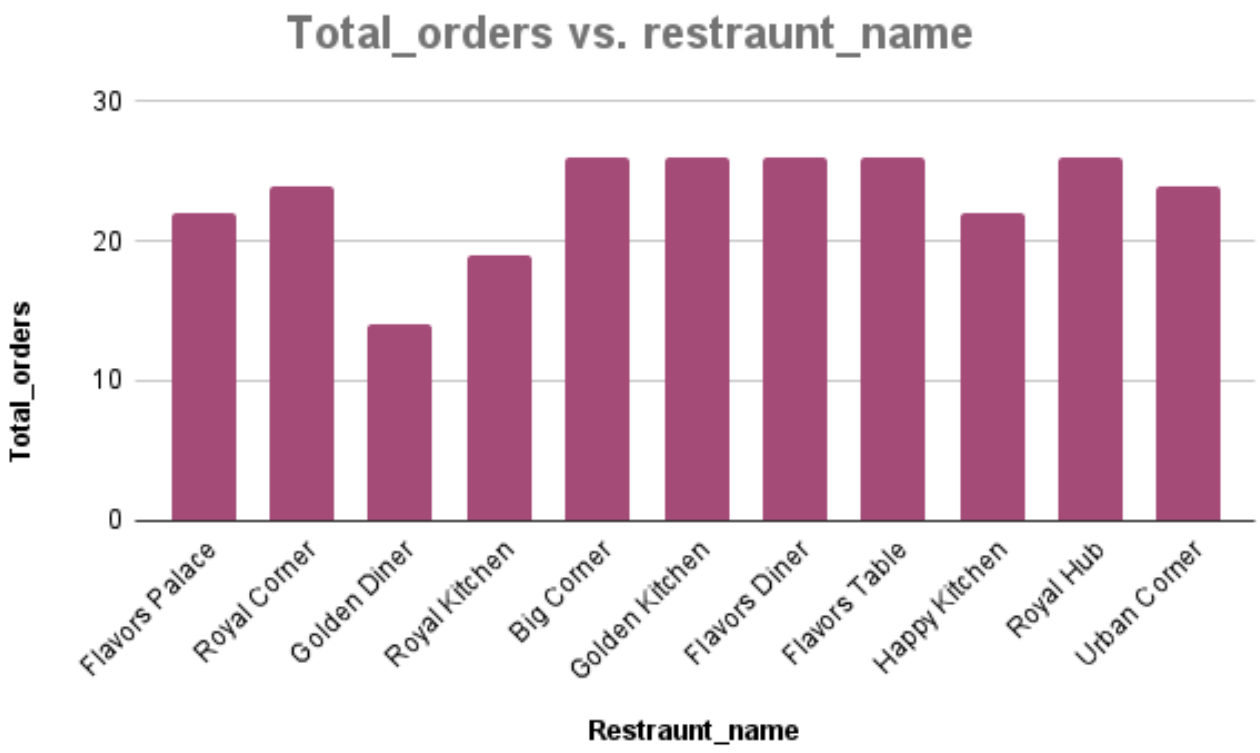




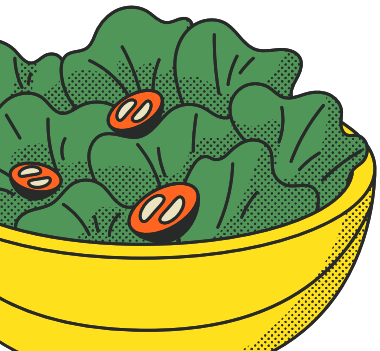
- **Highlights which menu items generate the highest revenue.**
- **Helps identify best-selling and high-profit items.**
- **Guides menu optimization and pricing strategies.**







- Shows which restaurants receive the highest number of orders.
- Helps identify top-performing and underperforming outlets.
- Useful for resource allocation and marketing focus.



Conclusion

- City Performance: Certain cities dominate order volumes and revenue, indicating strong regional demand. Targeted marketing in these cities can further enhance sales.
- Customer Contribution: A small segment of top customers accounts for a large share of total spending, emphasizing the value of loyalty programs and personalized offers.
- Menu Insights: Frequently ordered items differ from high-revenue items — suggesting that upselling premium menu options could increase profitability.
- Restaurant Performance: Several restaurants have order counts below 30, revealing underperformance and opportunities for operational or promotional improvements.
- Seasonal Trends: Monthly order patterns show clear peaks, allowing for better inventory planning and time-specific promotions.
- Revenue Drivers: Top items and cities together drive a significant portion of revenue, highlighting where investments in quality and service could yield the highest returns.

- Analysis shows that a few cities and high-value customers drive most of the revenue. While popular items generate high order counts, premium items contribute more to earnings. Some restaurants underperform with low order volumes, and seasonal trends impact demand. Focusing on top customers, high-revenue items, and targeted city promotions can boost growth and profitability.

THANK YOU

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