Pizza Restaurant Sales

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Topic

In 2021, U.S. pizza parlors earned around $45 billion, down from the $46.24 billion they made the year before (Lock, 2022). Of the overall revenue, chain restaurants accounted for around 27.65 billion US dollars while small eateries brought in about 17.94 billion US dollars (Lock, 2022)..

Business Problem

The pizza restaurant sales many slices of pizza per day and wants to increase their revenue. The pizza restaurant needs their pizza sales to be analyzed.

Background | History

Pizza's second home is in the United States. Italian immigration had arrived on the East Coast by the turn of the nineteenth century, and New York City's Lombardi's Pizza debuted in 1905. Pizza quickly became a cultural staple in the United States.

Data Explanation

I retrieved the dataset from the Kaggle website, and it lacked a lot of details about the data. The dataset features are listed below:

- order_id: Unique identifier for each order placed by a table
- order_details_id: Unique identifier for each pizza placed within each order (pizzas of the same type and size are kept in the same row, and the quantity increases)
- pizza_id: Unique key identifier that ties the pizza ordered to its details, like size and price
- quantity: Quantity ordered for each pizza of the same type and size
- order_date: Date the order was placed (entered into the system prior to cooking & serving)
- order_time: Time the order was placed (entered into the system prior to cooking & serving)
- unit_price: Price of the pizza in USD
- total_price: unit_price * quantity
- pizza_size: Size of the pizza (Small, Medium, Large, X Large, or XX Large)
- pizza_type: Unique key identifier that ties the pizza ordered to its details, like size and price
- pizza_ingredients: ingredients used in the pizza as shown in the menu (they all include Mozzarella Cheese, even if not specified; and they all include Tomato Sauce, unless another sauce is specified)
- pizza_name: Name of the pizza as shown in the menu (Nwalozie, n.d.).

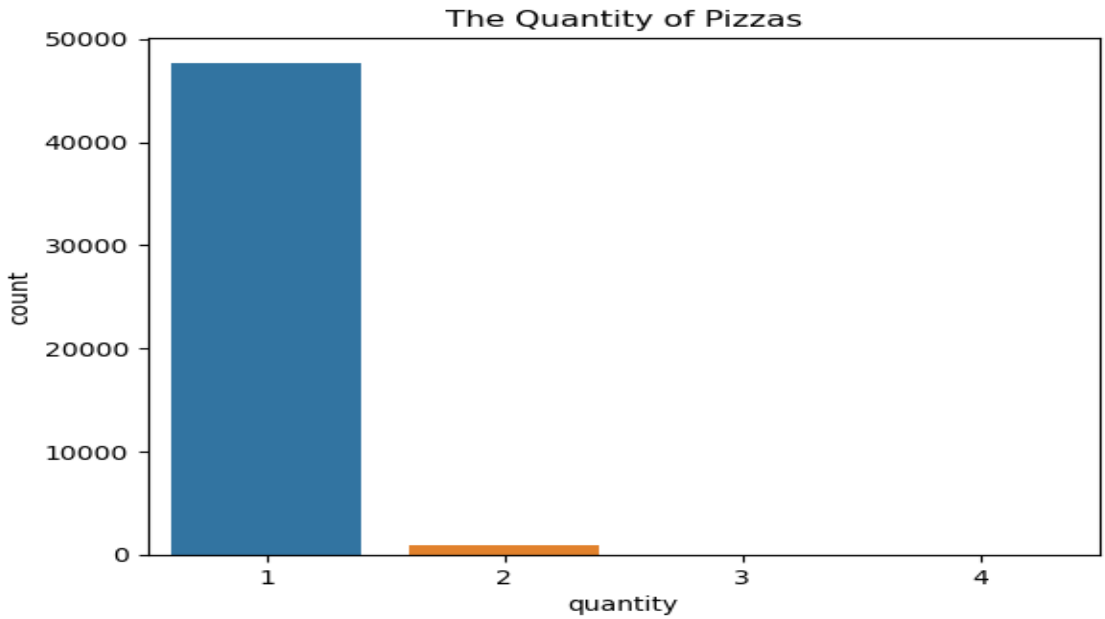
Methods

I used Jupyter Python Notebook 3 to analyze the pizza sales dataset. I read the dataset into a pandas dataframe, and I viewed the first five records. I cleansed the data with the isna, method. I explored the dataframe’s index, dtypes, information, shape, describe, sum, corr, cov, unique values, grouped the pizza category by features, viewed the value counts.

I applied the mean method to the sums of pizza category and pizza size. I grouped the various dataframe's features together and calculated their sums.

Analysis

1)Quantity: There are more single slices of pizza that were sold versus two, three, and four slices of pizza.



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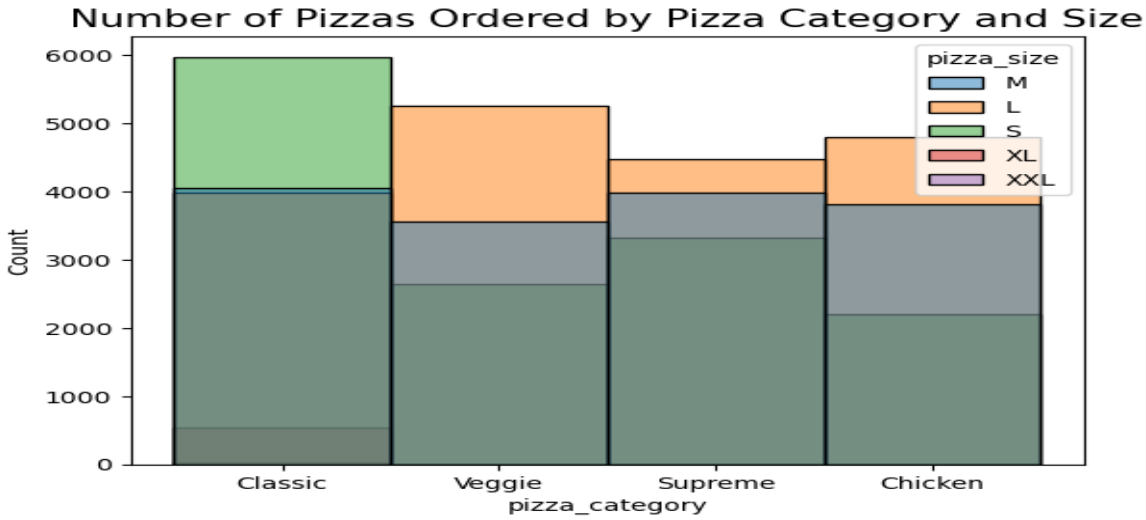
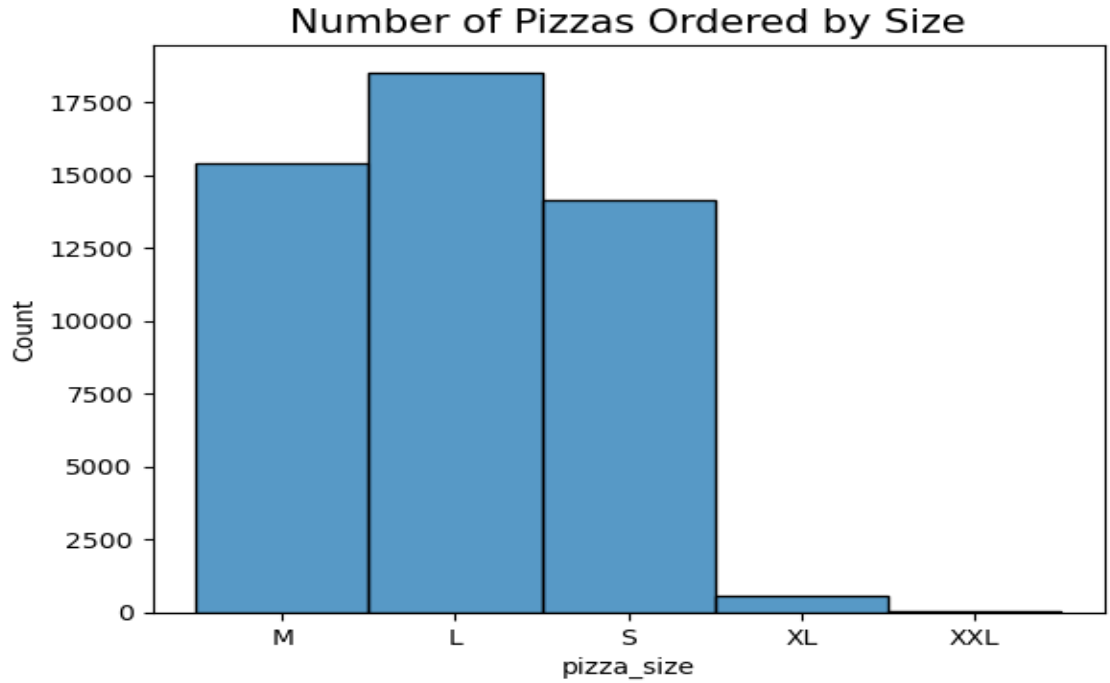
2)Pizza Category and Size: The classic pizzas had the highest number of sales, and highest number of small size pizza sells. Veggie pizzas had the second highest number of sales, and the highest number of large sized pizza sells. Supreme had the least number of pizza sales.



3)Pizza Size: The large pizzas had the highest number of sales, and the medium pizza had the second highest number of sales. The XXL and XL sized pizzas had the least number of sales.



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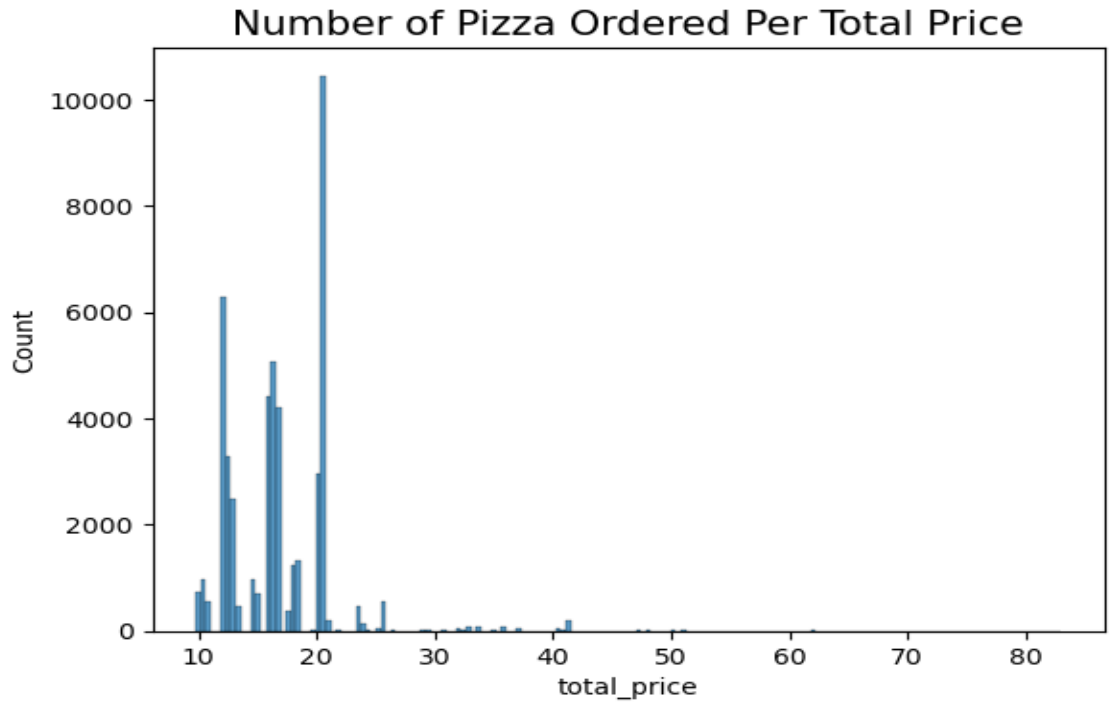
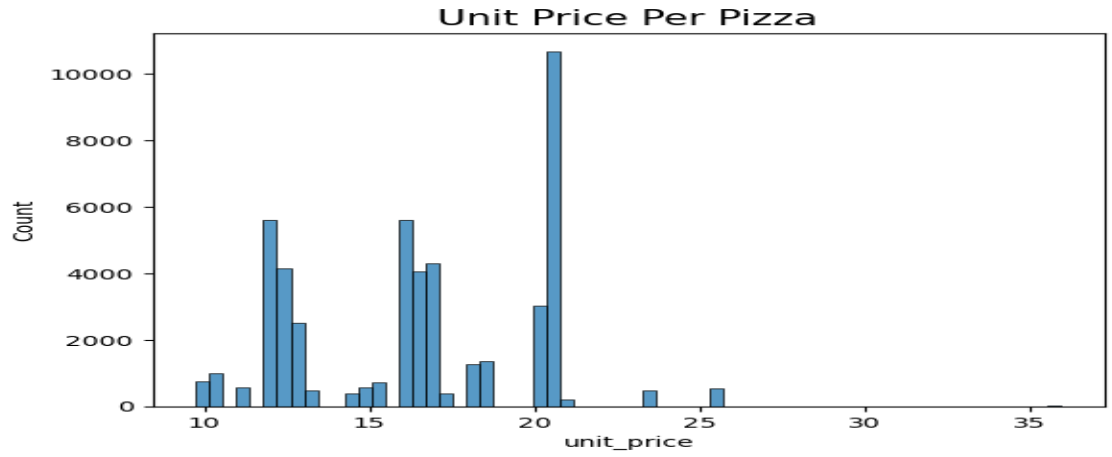
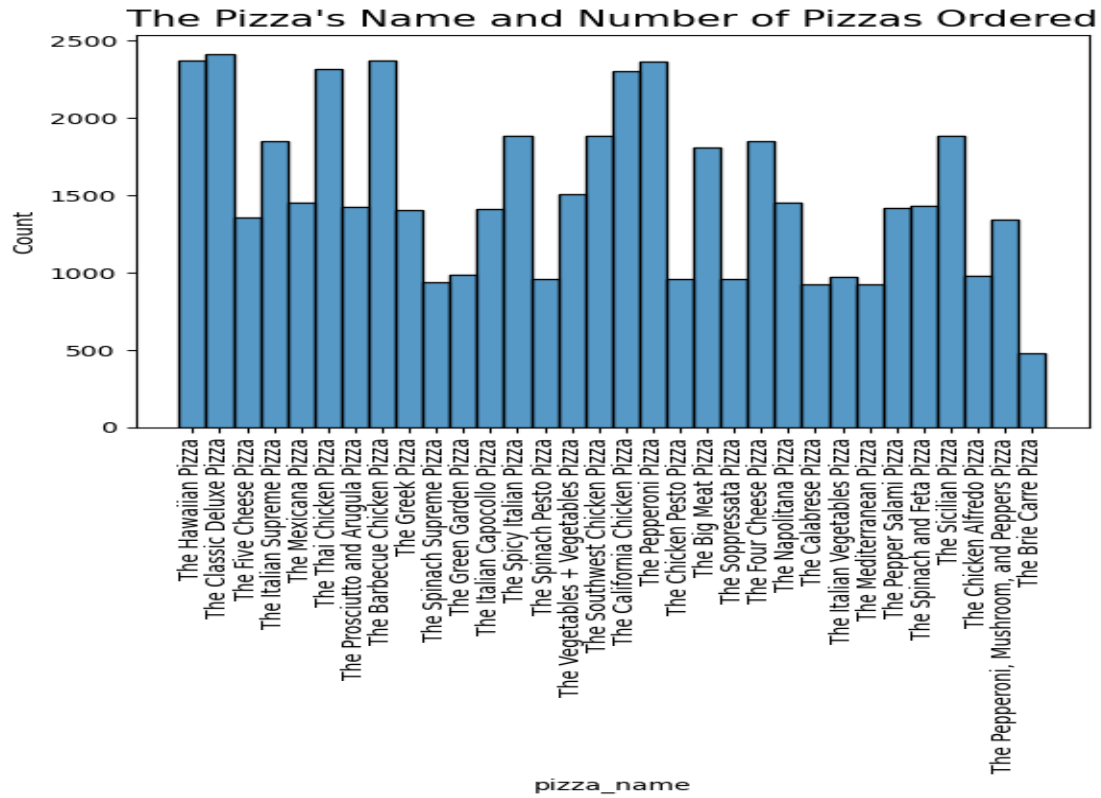
4)Total Price: The total price of pizza with the highest number of pizzas sold was approximately $20.00. The total prices of pizza greater than $20.00 had the least number of pizzas sold.



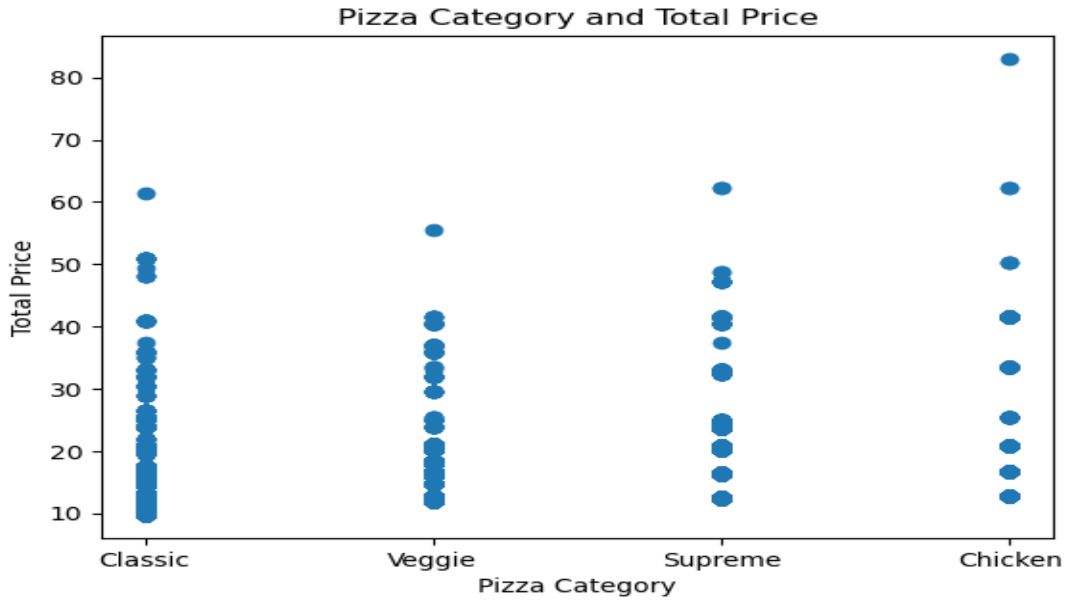
5)Unit Price: The unit price with the highest number of pizzas sold was approximately a little more than $20.00. Pizzas with unit prices near $13.00 and near $16.00 - $17.00 had the second highest number of pizzas sold.



6)Pizza's Name: The Hawaiian pizza, classic cheese deluxe pizza, thai chicken pizza, barbeque chicken, California chicken pizza, and pepperoni pizza had the highest number of sold slices of pizza. The brie carrie had the least number of sold pizza slices.



7)Pizza Category vs. Total Price: The classic pizza had the highest number of sold pizzas. Veggie pizzas had the second highest number of sold pizzas. Chicken pizzas had the least number of sold pizzas.



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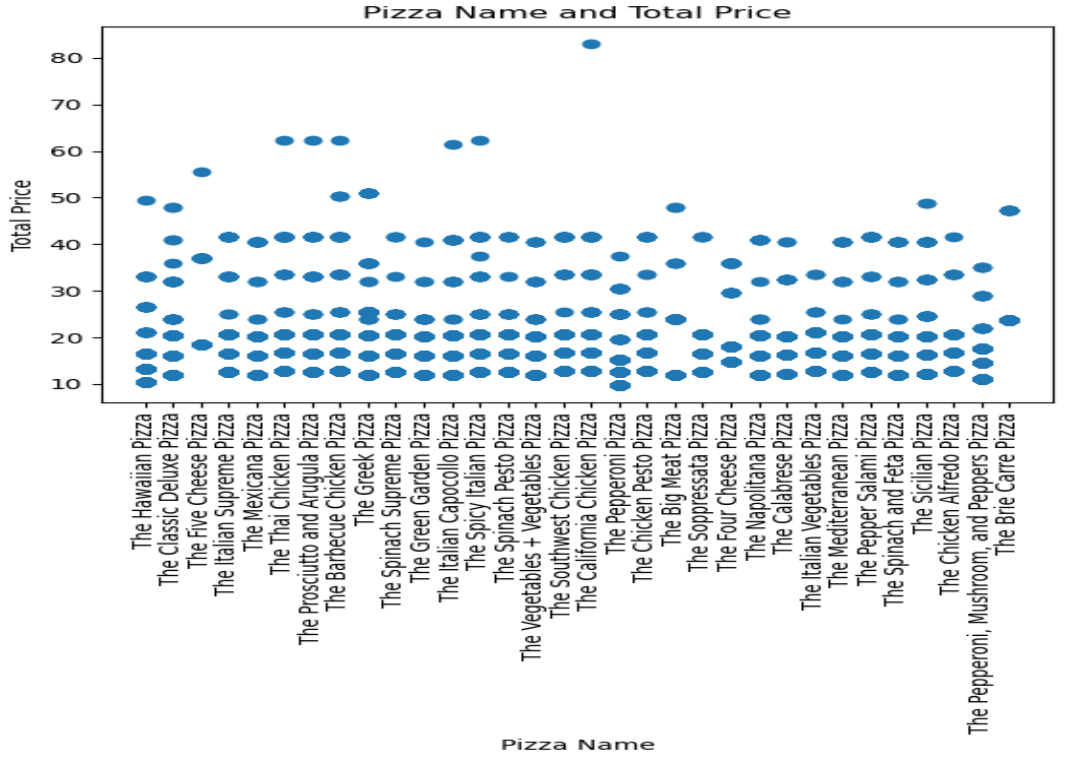
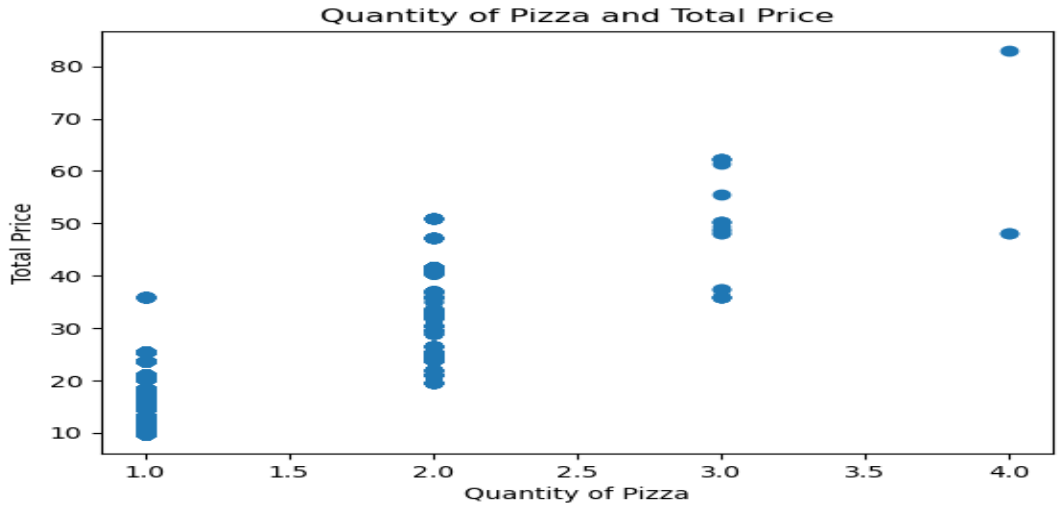
8)Pizza Name vs. Total Price: Each pizza has almost the same number of unit price quantity of pizzas**.**



9)Quantity vs. Total Price: Four slices of pizza are more expensive, three slices of pizza are the second most expensive, and one slice of pizza is the least expensive. Selling two slice of pizza is more popular than other slices of pizza.



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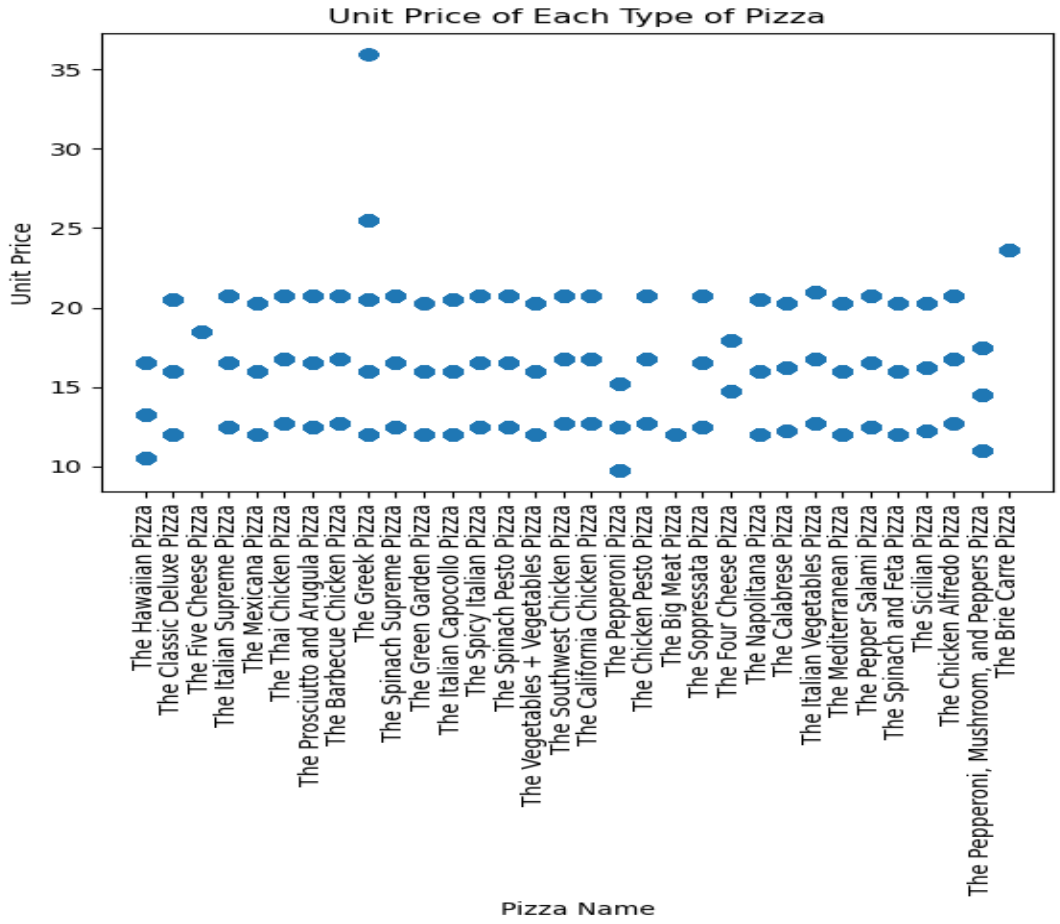
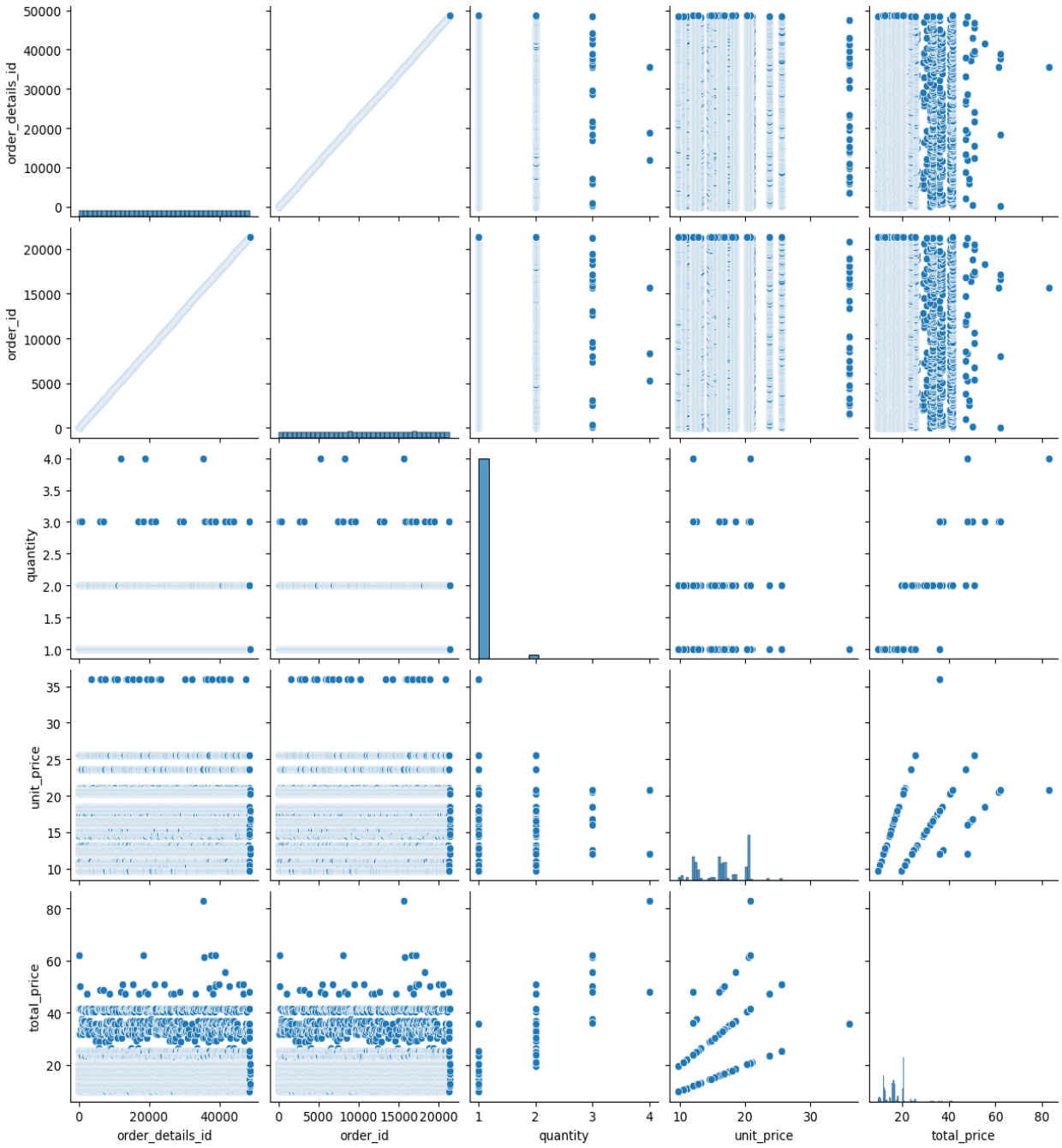
10)Unit Price vs. Pizza Name: Every pizza appears to have near the same unit price.



11)Pairplot**:** The pairplot of the dataframe displays the subplots of its features.



Conclusion

The greatest number of slices of pizzas sold at the same time are two. The pizza restaurant can earn more revenue by selling more two slices of pizza and single slices of pizza. Selling three and four slices of pizza is less popular and more expensive. The classic pizzas were sold the most, and the restaurant should focus on selling more classic and veggie pizzas since they are most popular.

The restaurant can also form some type of strategy to make the supreme and chicken pizzas become more popular and bring in a lot more sales. The restaurant should think about reducing the total price and unit price of the pizzas to sell more pizzas to their consumers. The restaurant needs to focus on increasing the sales for XL and XXL sized pizzas.

References

Lock, S. (2022). U.S. Pizza Restaurant Sales 2012-2021. Retrieved from Pizza restaurant sales US 2021 | Statista, on November 15, 2022.

Nwalozie, G. (n.d.). Pizza Restaurant Sales Dataset. Retrieved from Mazi- EDA -Pizza sales | Kaggle, on November 15, 2022.