




Unlocking Insights: A Comprehensive Analysis of Flight Fare Trends



OUTLINE

- Executive Summary
 - Introduction
 - Project Goals
 - Methodology
 - Result
 - Discussion
 - Conclusion
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Introduction to Flight Fare Trends

In this presentation, we will explore **flight fare trends** over the years. Understanding these trends is crucial for travelers and industry stakeholders. We will analyze key factors that influence **pricing**, including demand, seasonality, and economic conditions.



Project Goals



•Based on the potential analyses, the project goals might include:

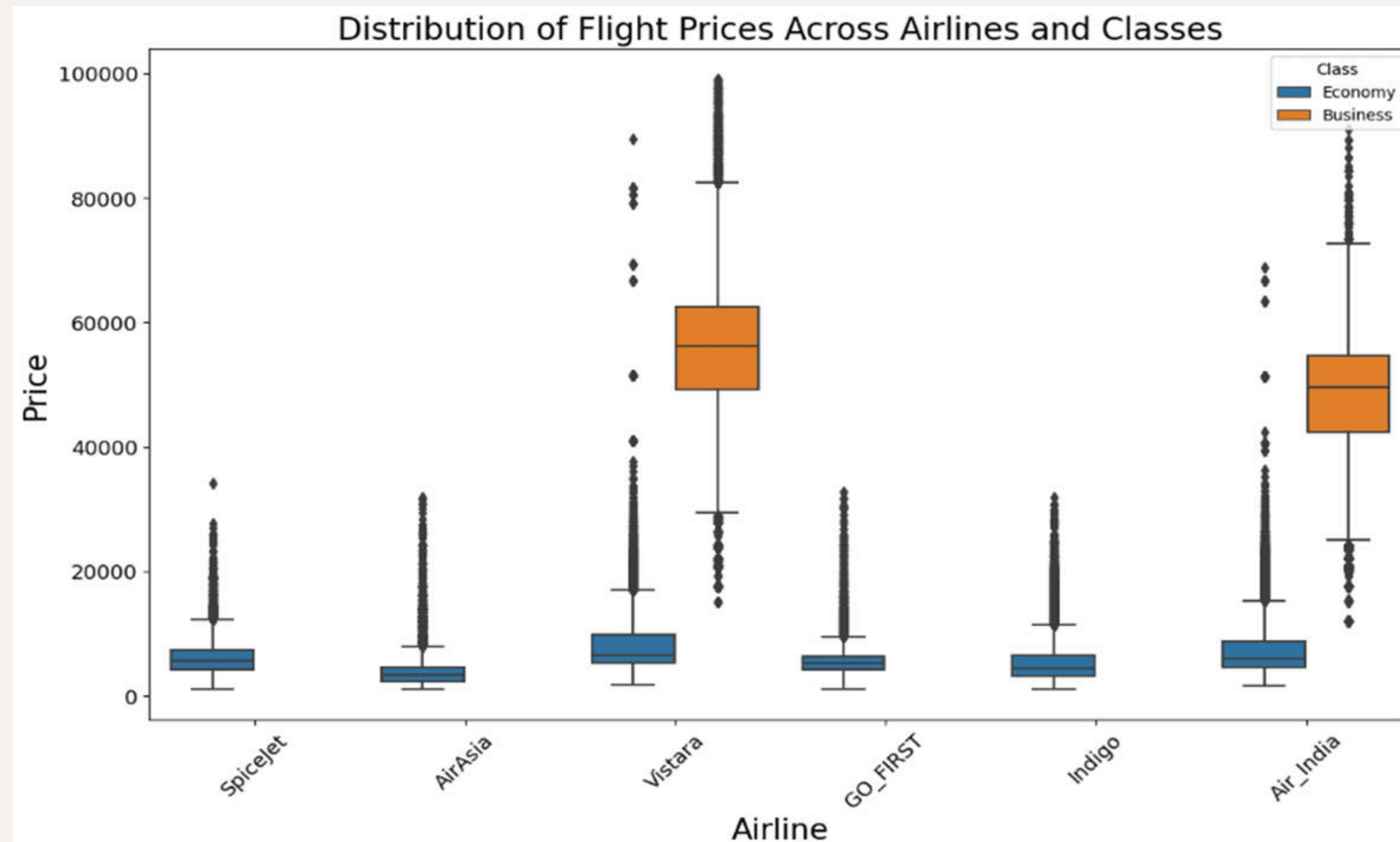
- Determine the most reliable airlines:- Analyze on-time performance.
- Compare pricing strategies:- Examine how prices vary across airlines, classes, and over time.
- Identify peak delay periods:- Find out if certain times of day, days of the week, or month have higher delays.
- Analyze route profitability:- Determine which routes are the most popular and profitable.

Methodology

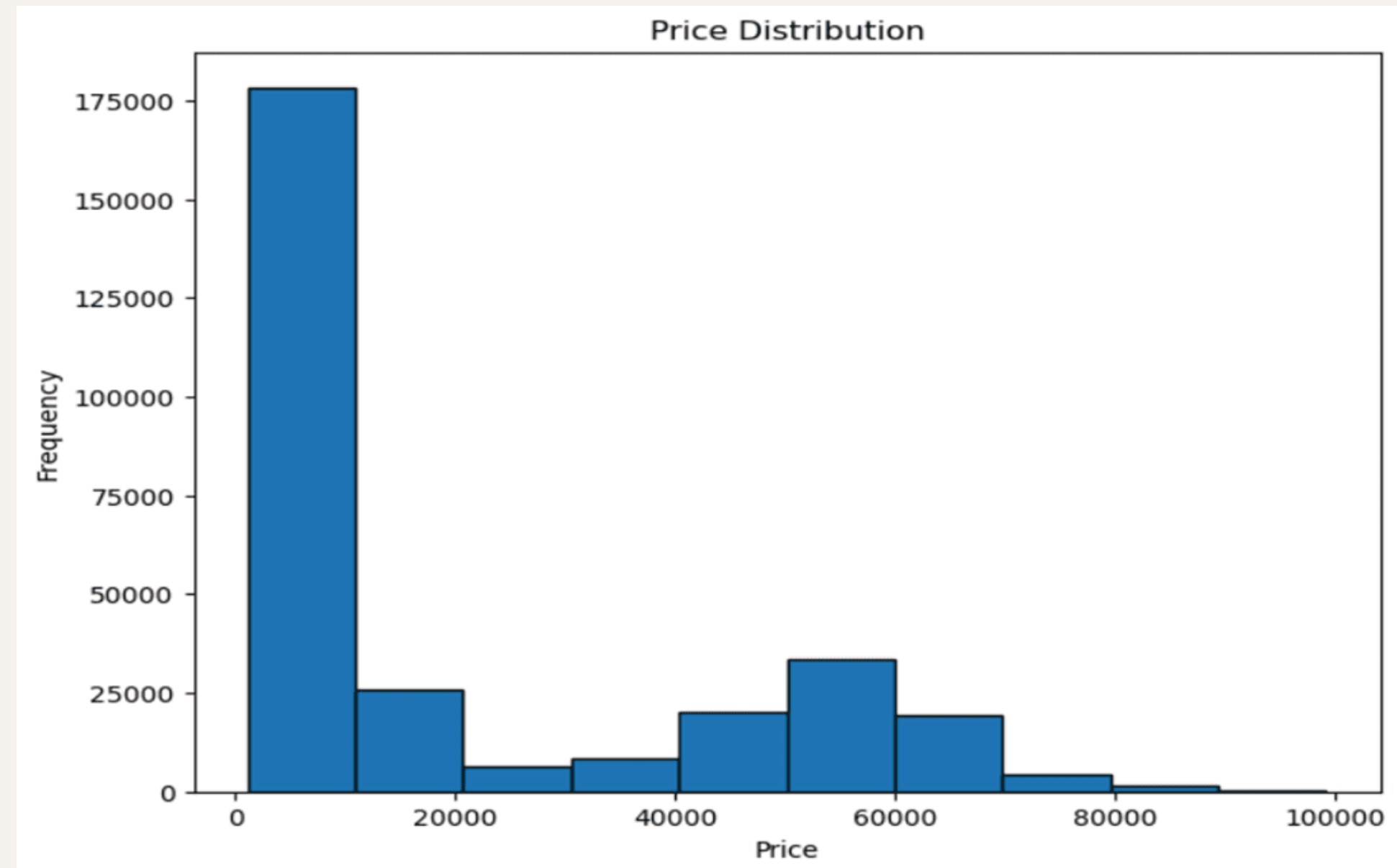


1. Data Loading: Load the Flight Fares data set into the code using pandas library. Perform initial data exploration to understand the structure and content of the dataset.
2. Data Cleaning and Manipulation: Handle missing values, remove duplicates if any, and perform necessary data transformations. This step ensures the data is in a suitable format for analysis.
3. Exploratory Data Analysis (EDA): Use pandas, matplotlib, and seaborn libraries to explore the dataset. Analyze different variables, their distributions, and relationships. Generate various visualizations such as bar plots and pie charts to uncover patterns and trends.
4. Visualization: Create clear and informative visualizations to communicate findings.

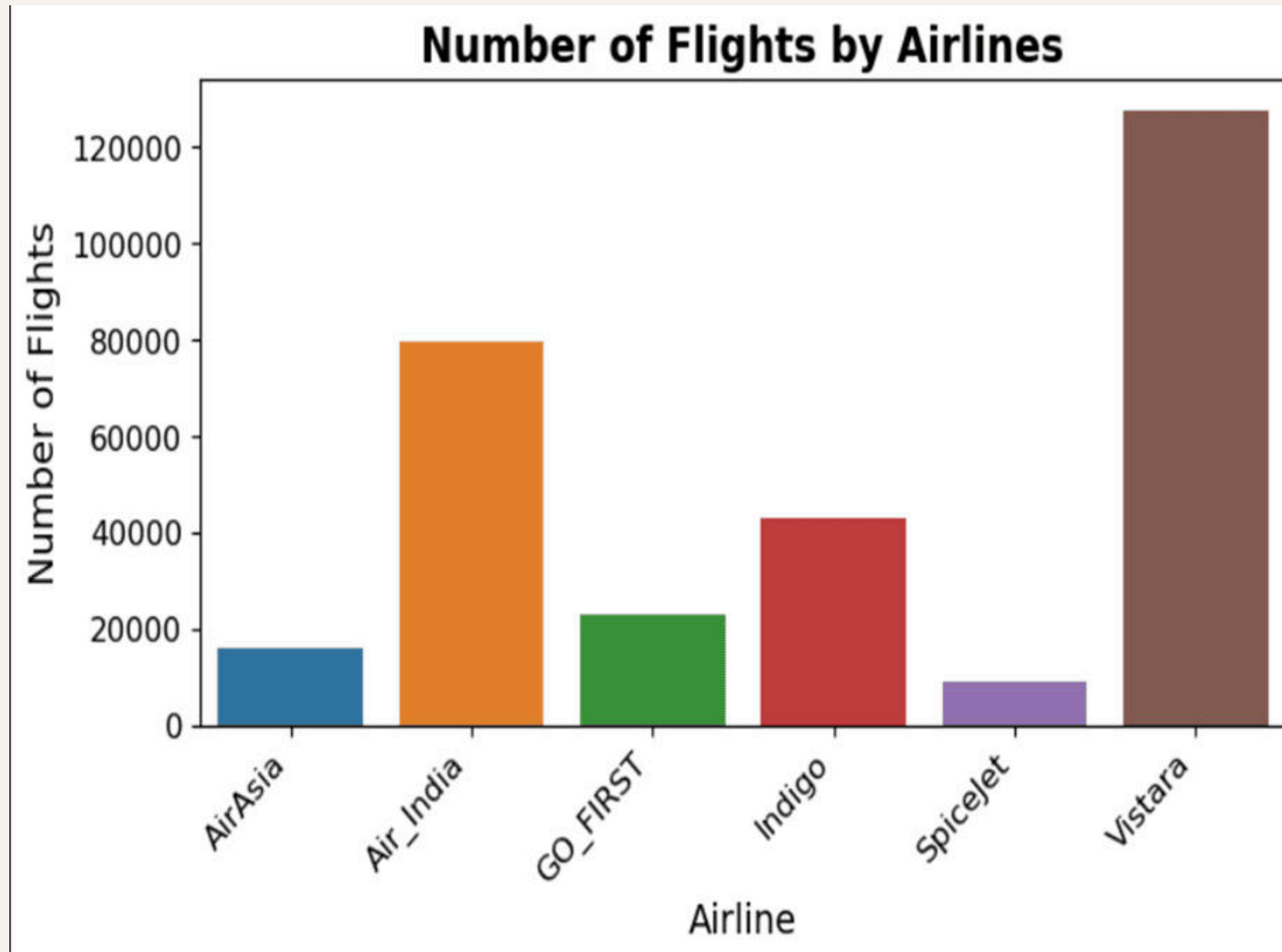
Flight Prices Across Airlines and Classes



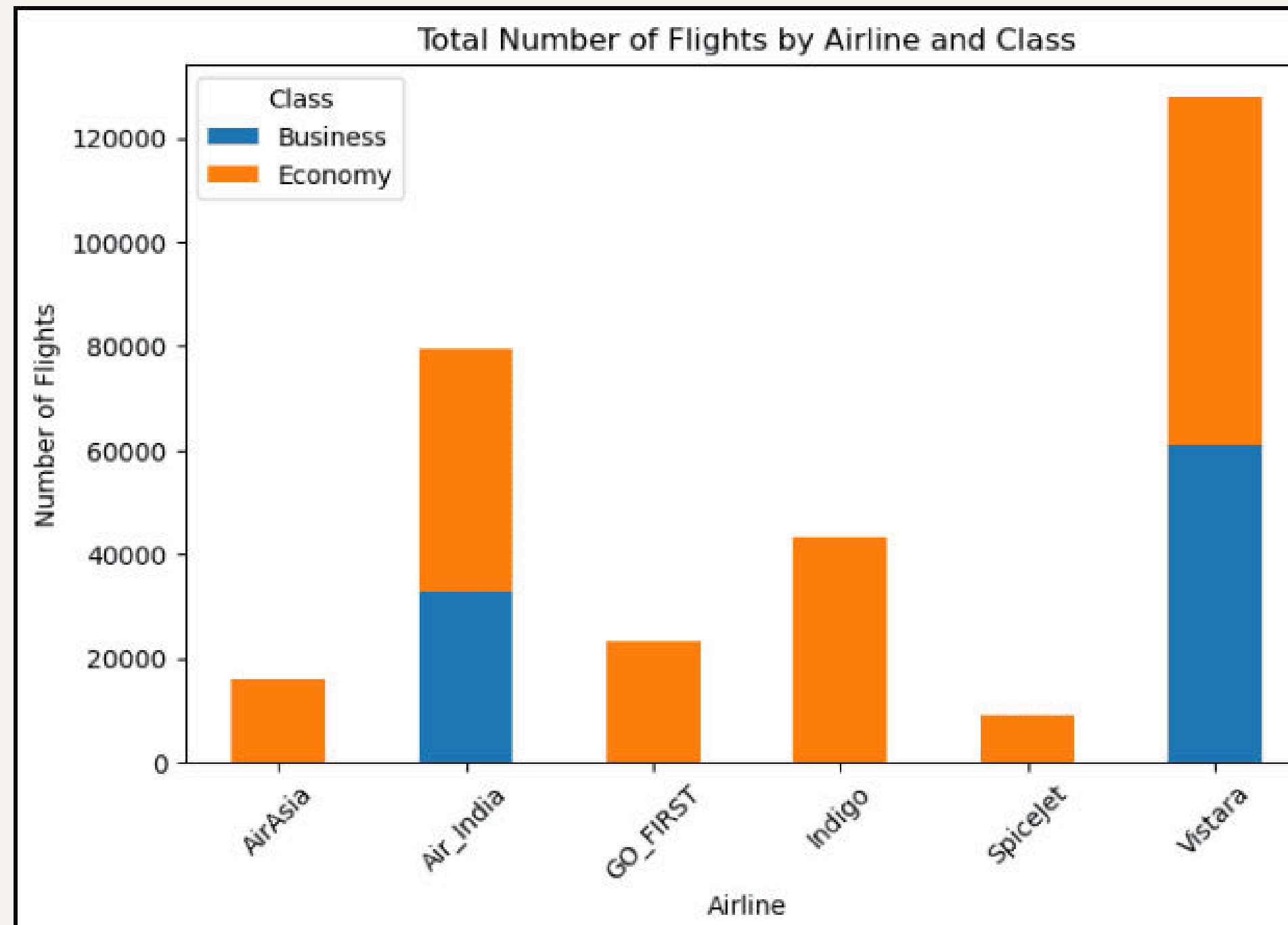
Price Distribution



Airline Wise Analysis On Count Of Flight

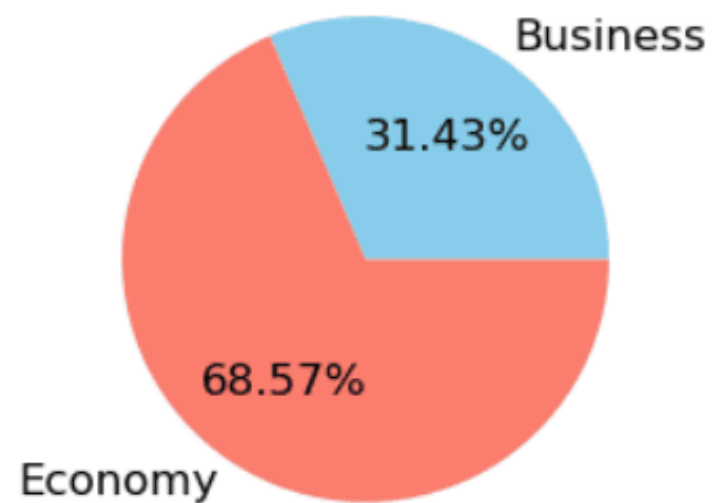


Total Numbers of Flights by Airlines and Class

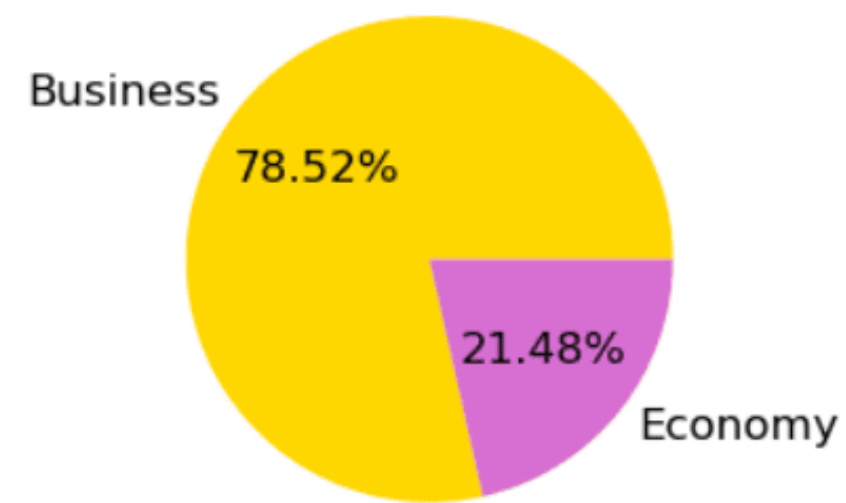


Class Wise Analysis

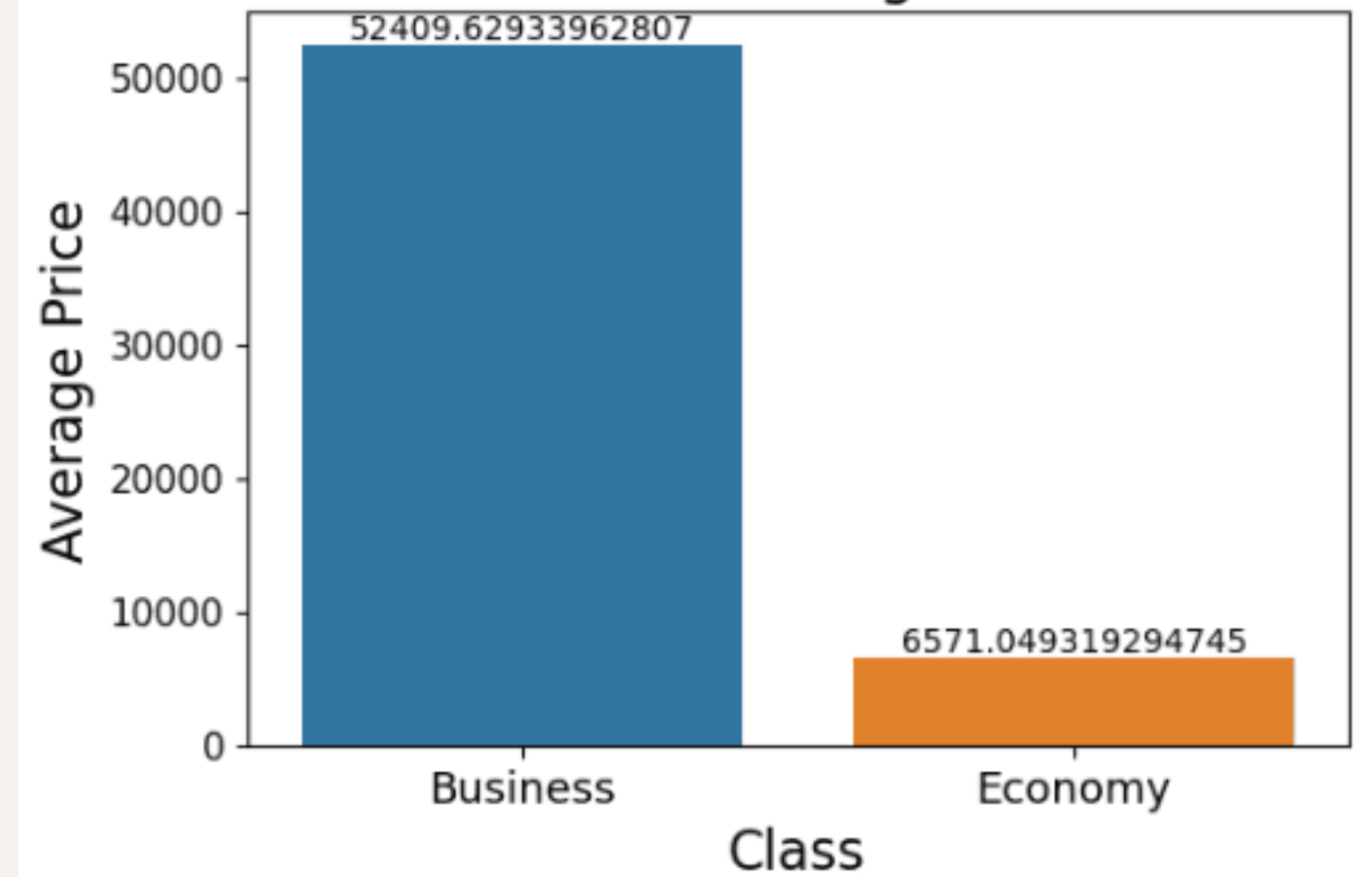
Class Wise Flight Count



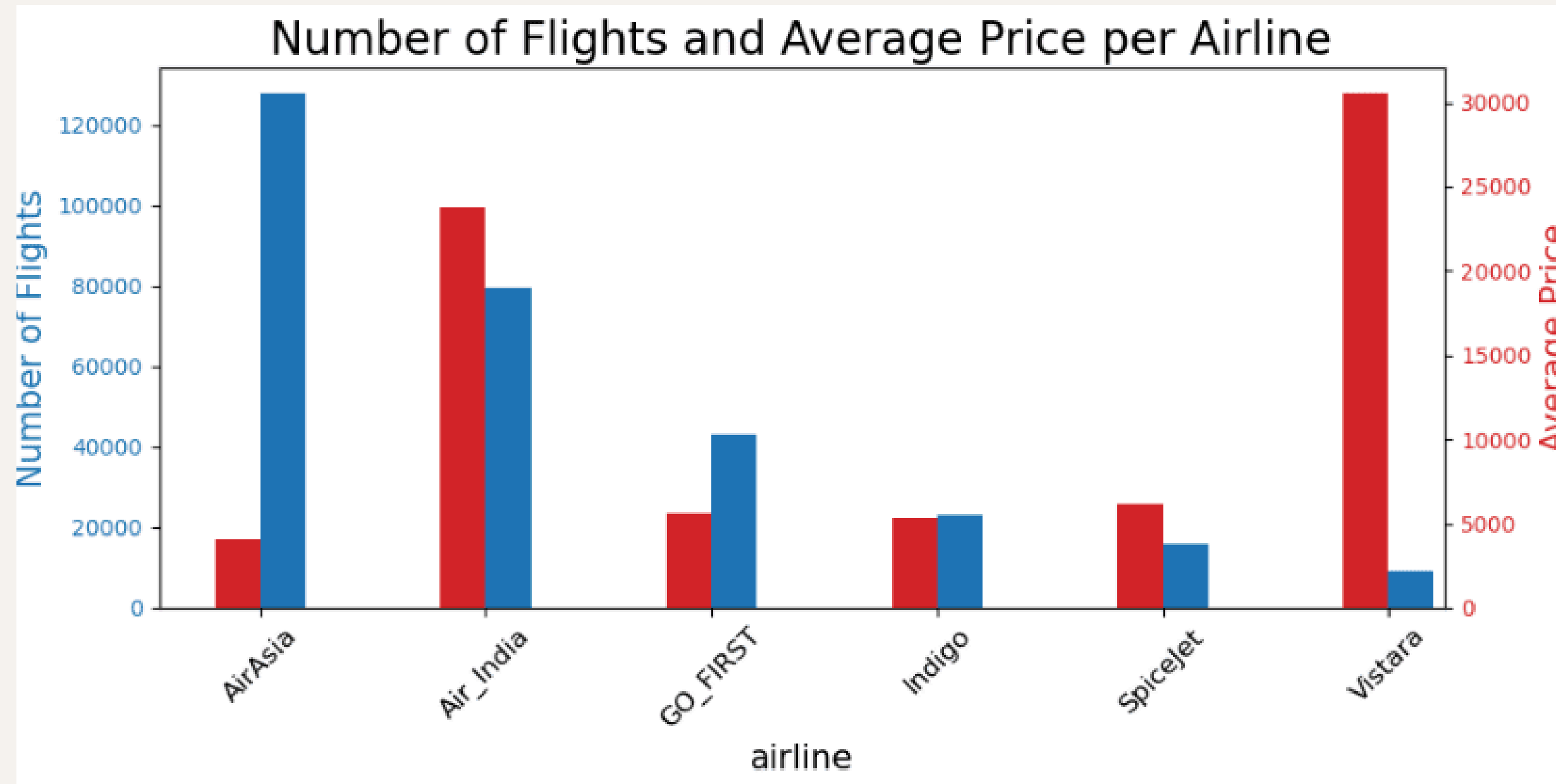
Class Wise Flight Price



Class Wise Flight Fare

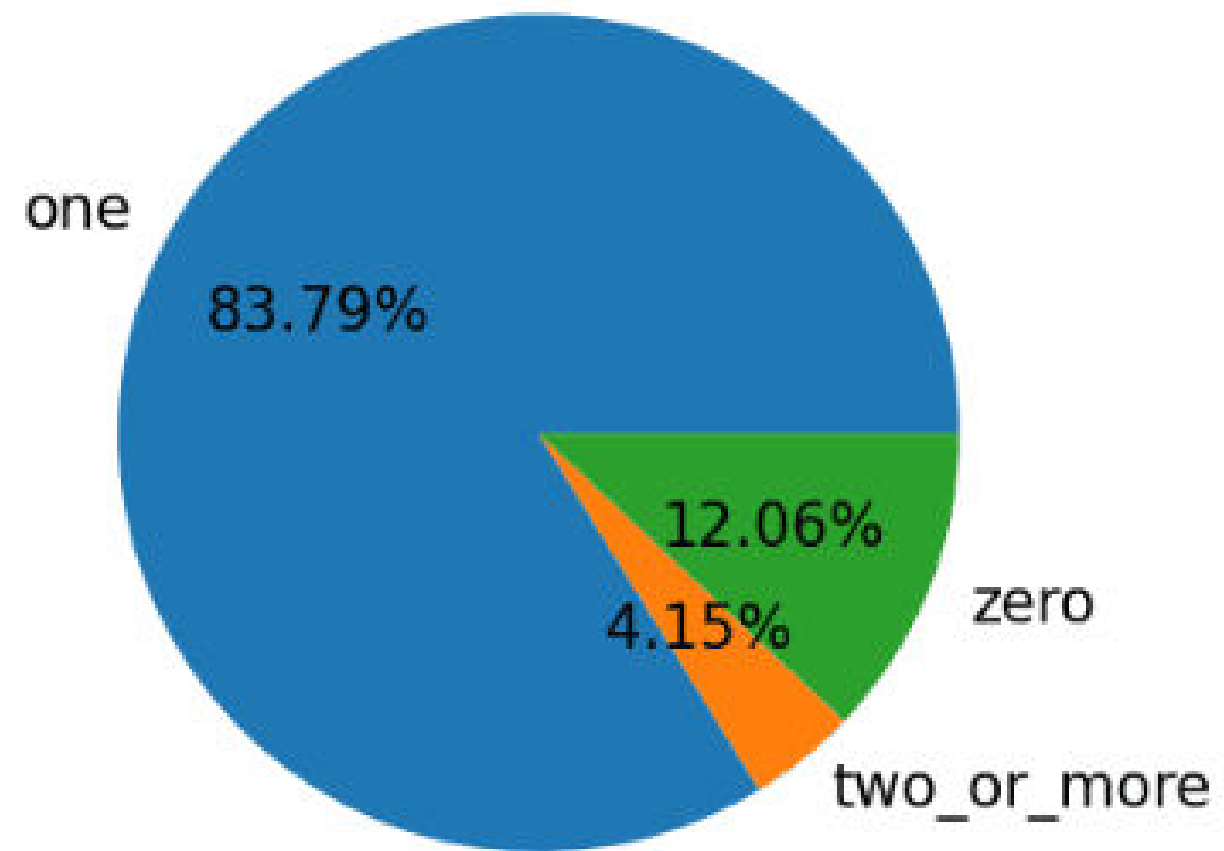


Number of Flights and Average Price per Airline

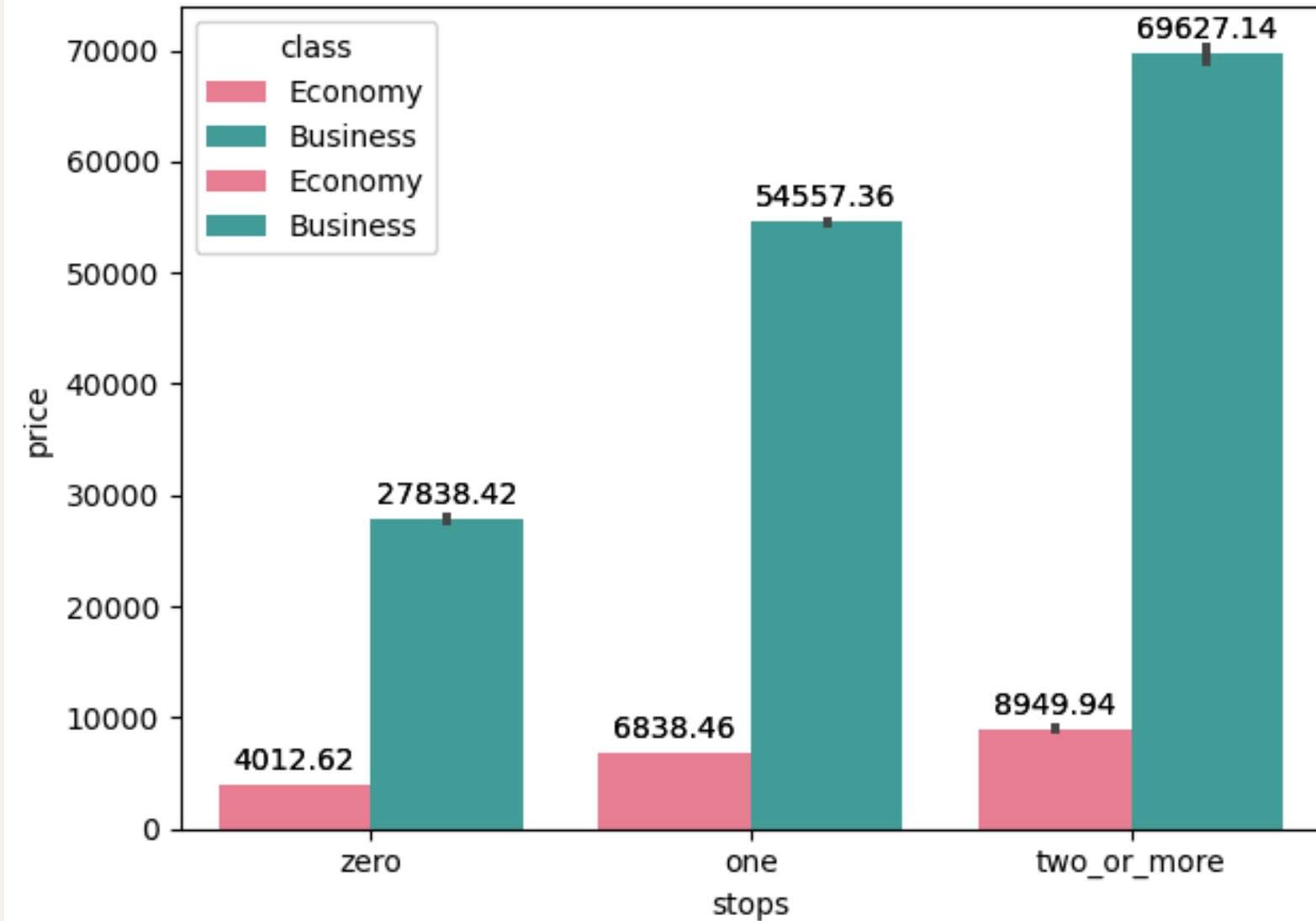


Stops Wise Analysis

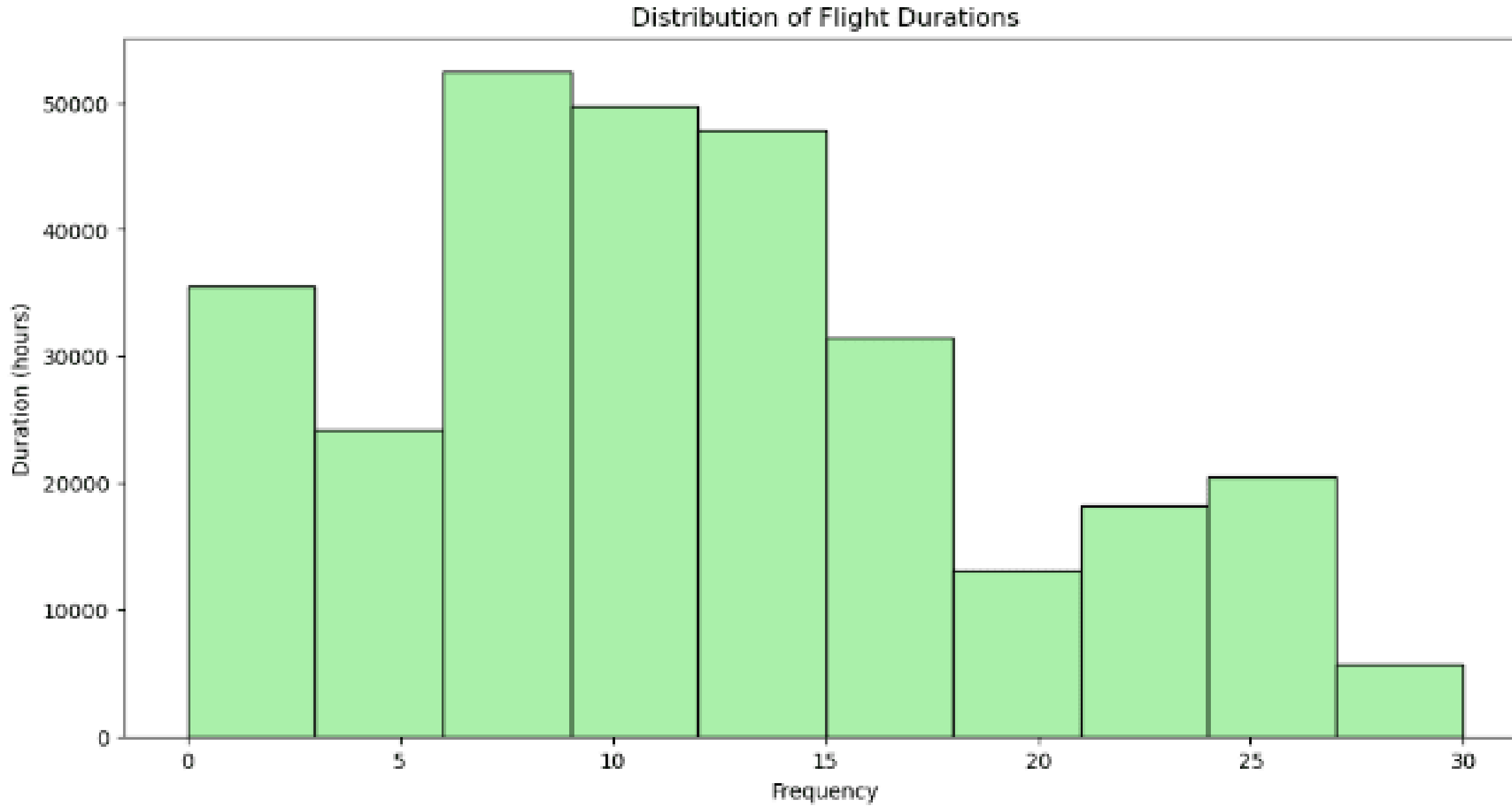
Stop Wise Count



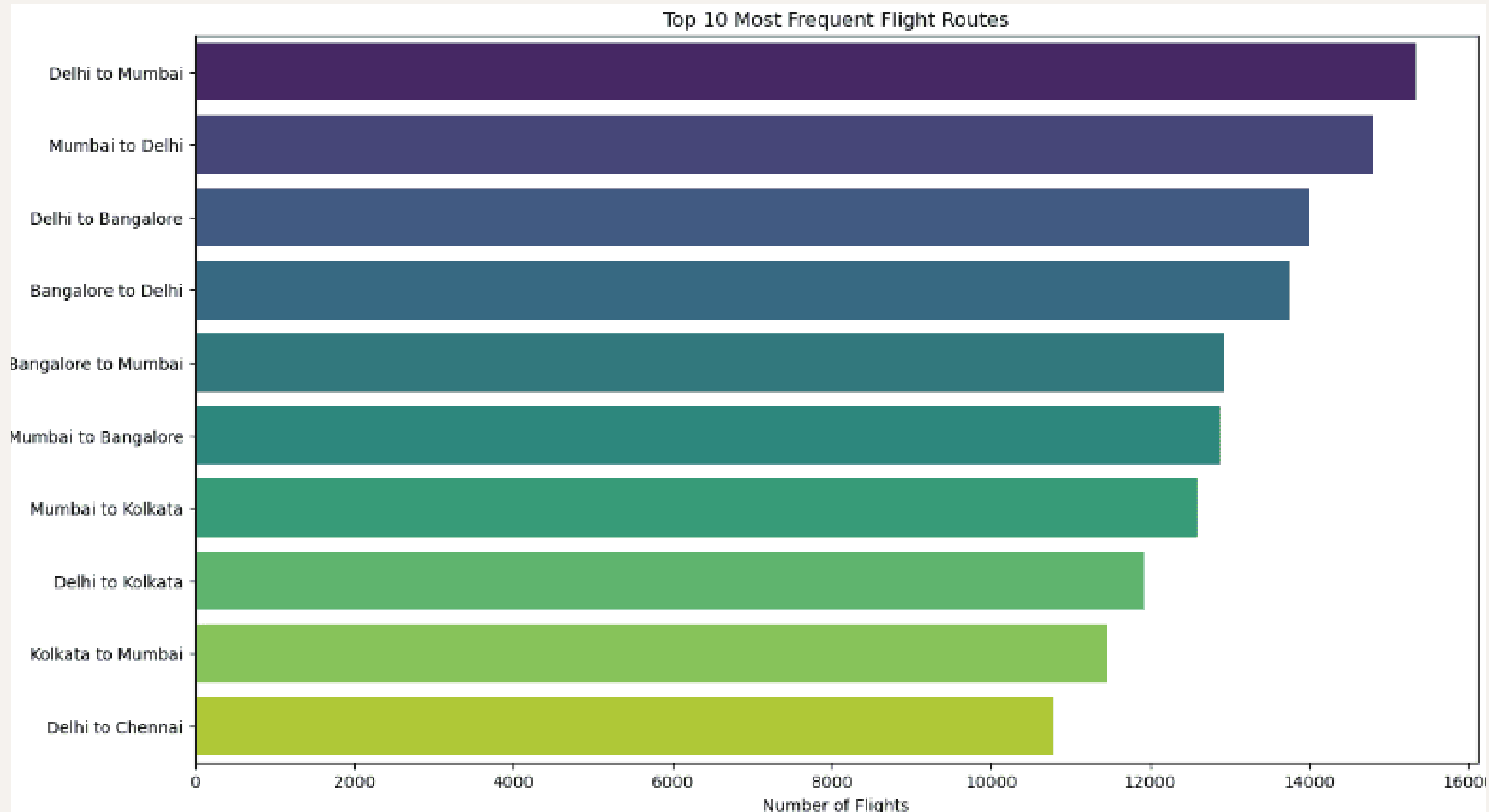
Average Prices by Class and Stops



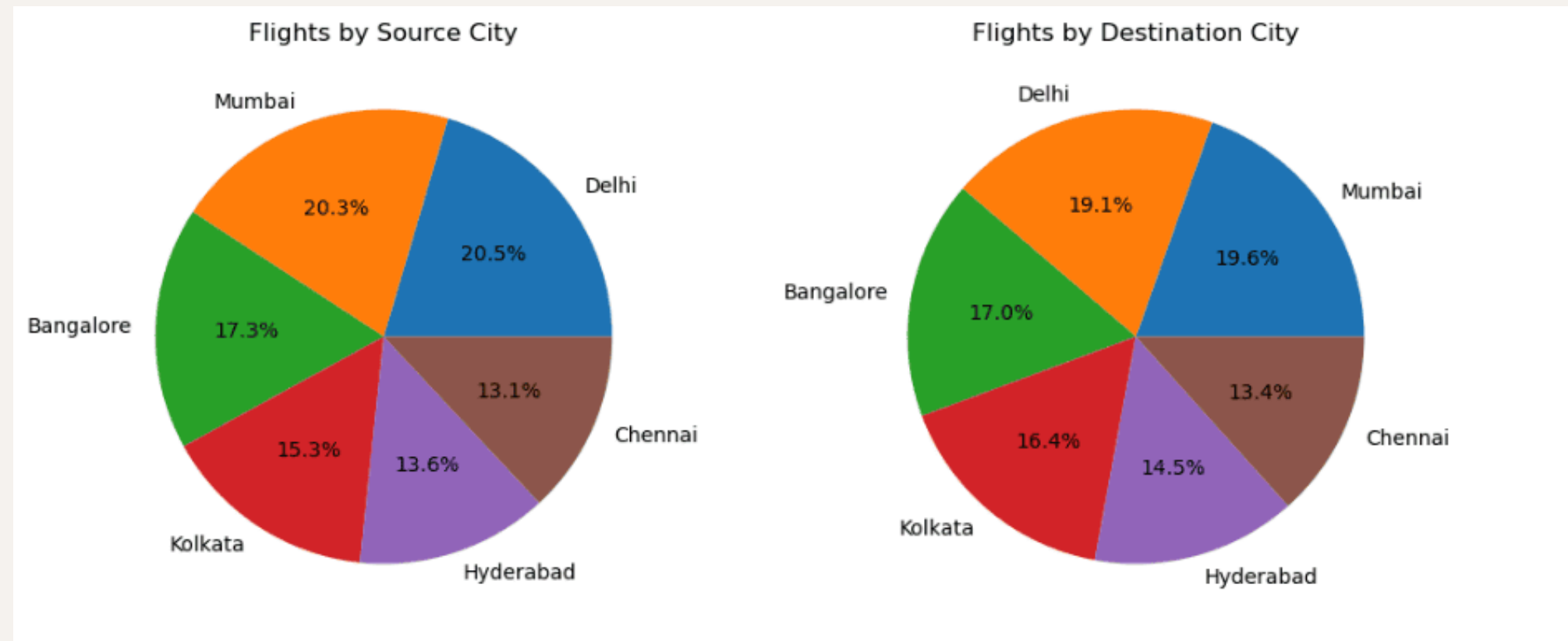
Duration of Flights Distribution



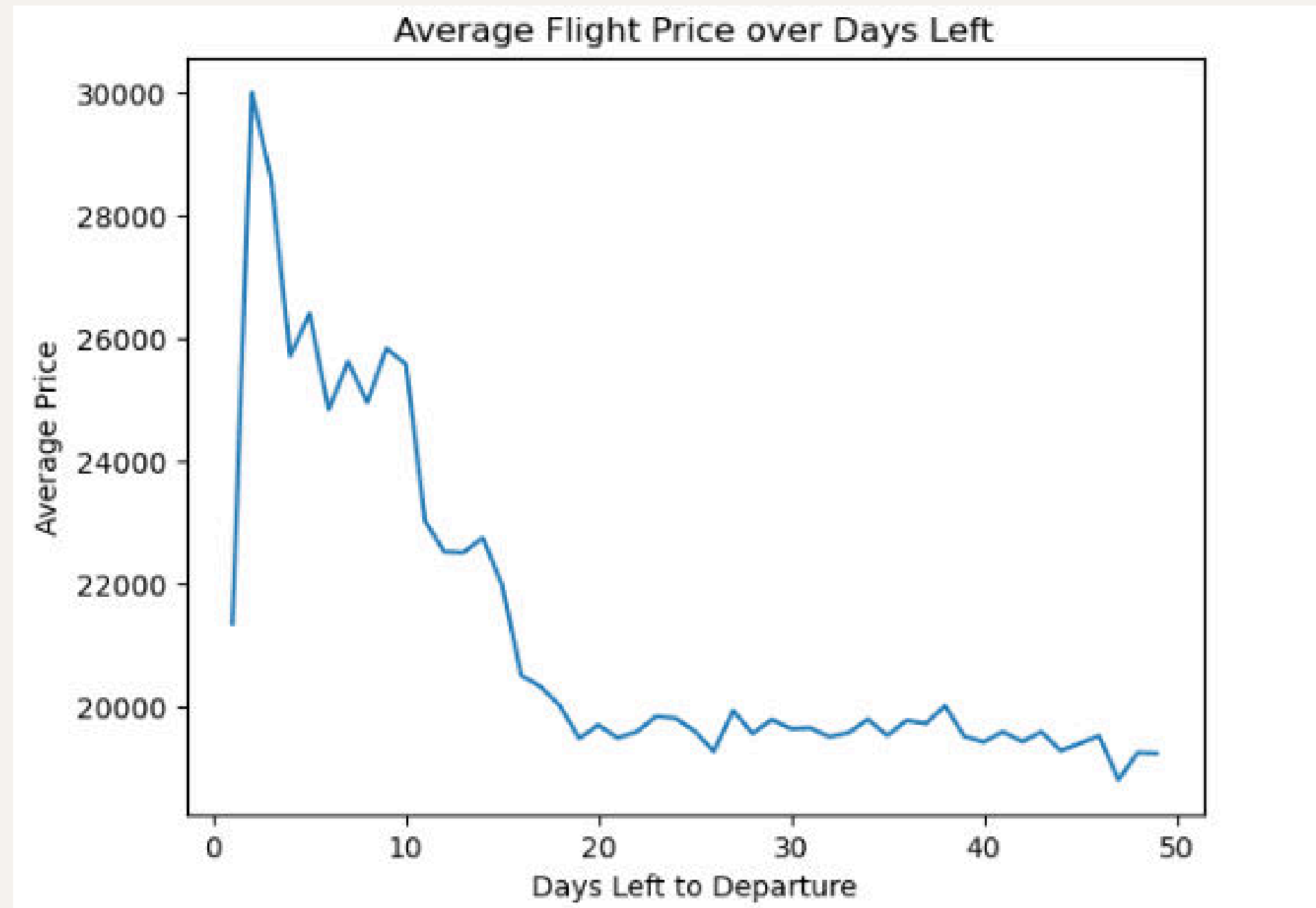
Route Analysis



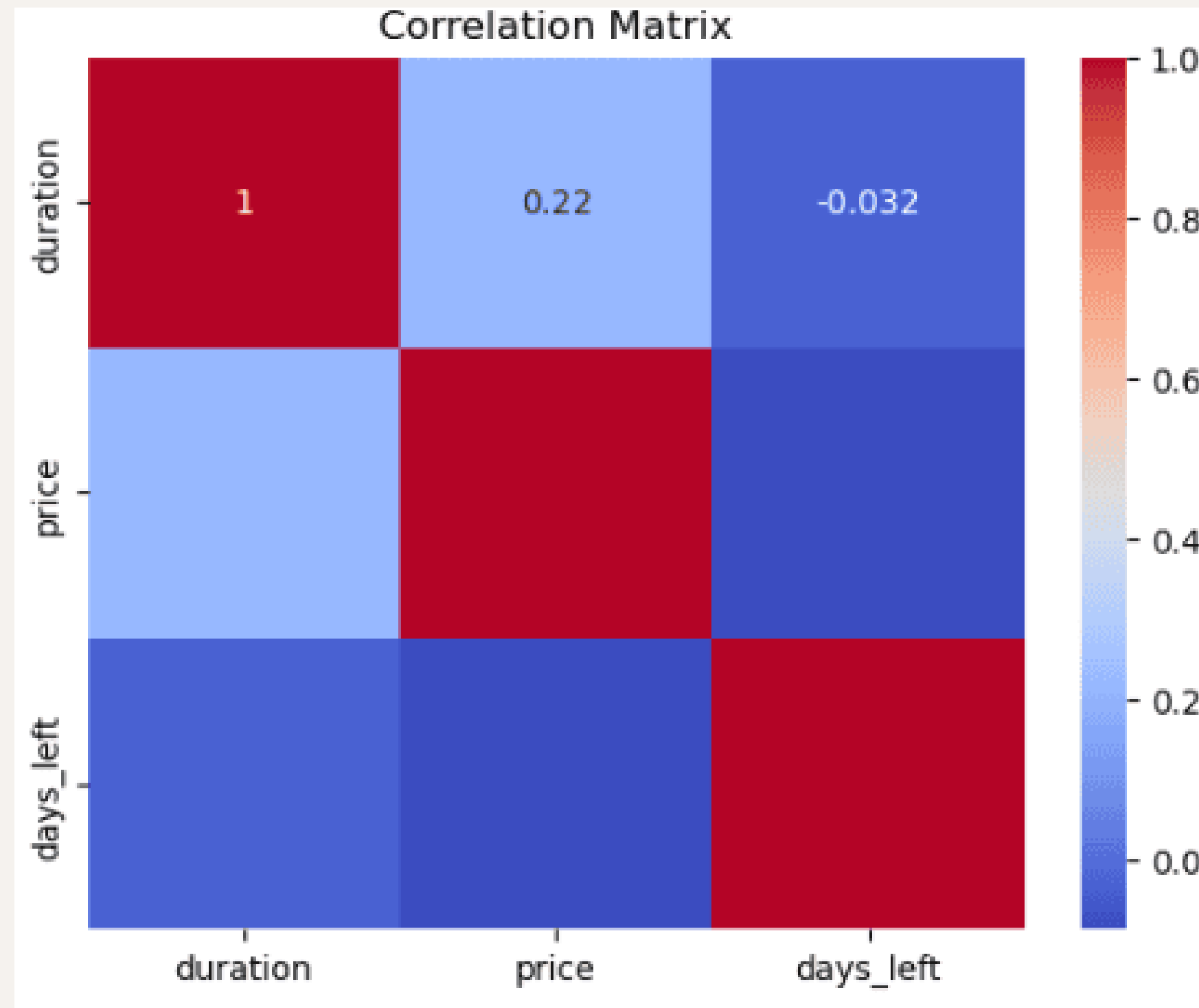
Source and Destination Wise Analysis



Trend of Avg. Price By Days Left



Correlation of Price, days_left and duration



Points observed from graphs

- Air India has the highest median price for business class tickets.
- SpiceJet: Shows the lowest median price for business class tickets.
- Vistara: Has a slightly higher median price for economy class tickets.
- Vistara airline has the highest number of flights, with a total of 127,758 flights, significantly more than any other airline.
- The majority of flights are of economy class but still business class contributes a disproportionately higher amount to the total flight price.
- Vistara has the highest average price per flight, while IndiGo operates the most flights.
- Mumbai has the highest number of flights, with 58,488 flights, making it the most frequented destination among the listed cities.
- Average ticket prices increase with the number of stops and are higher for business class compared to economy class across all stop categories.

- The most common flight duration in the dataset is between 5 to 10 hours.
- The Delhi to Mumbai flight route has the highest number of flights compared to other listed routes.
- Delhi is the most common source and destination city for flights, followed closely by Mumbai.
- The graph shows that average flight prices decrease as the number of days left to departure increases.
- There is a moderate positive correlation between 'duration' and 'price', and a weak negative correlation between 'days_left' and both 'duration' and 'price'.

Conclusion and Future Outlook

In conclusion, understanding flight fare trends is essential for effective travel planning. The analysis shows that booking flights in advance can help secure lower prices, especially for longer journeys. As we look ahead, factors such as sustainability, economic recovery, and technological advancements will continue to shape the future of airfare pricing. Ensuring safety, comfort, and passenger satisfaction remains crucial, and a comprehensive review of flight operations can help make informed suggestions to others.

