

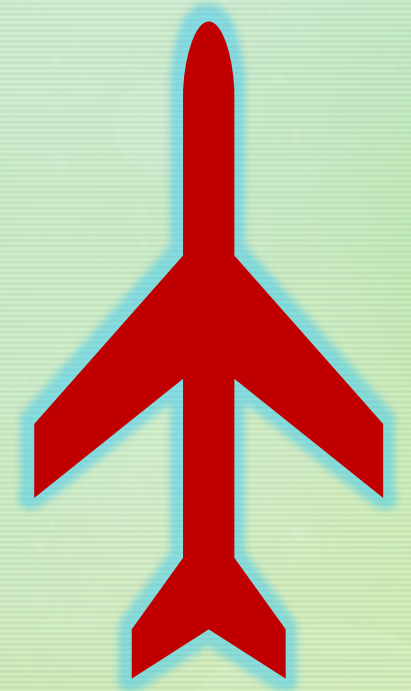
# Flight Fare Prediction



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# Outline

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- Executive Summary
- Introduction
- Methodology
- Results
- Conclusion
- Appendix

# Executive Summary

- Understanding the factors that contribute to the average flight price
- Estimating the flight price based on, routes, duration, stops and no of days prior the booking is made
- Providing valuable insights for customers seeking to estimate flight price
- Developing a predictive model that determines the average flight price given its various factors

# Introduction

We are given a dataset on Flight Fare. The dataset has information about the flight price for different routes and classes.

We want to analyze the following questions:

Flight fare is determine dynamically by airlines and how it depends on various factor like:

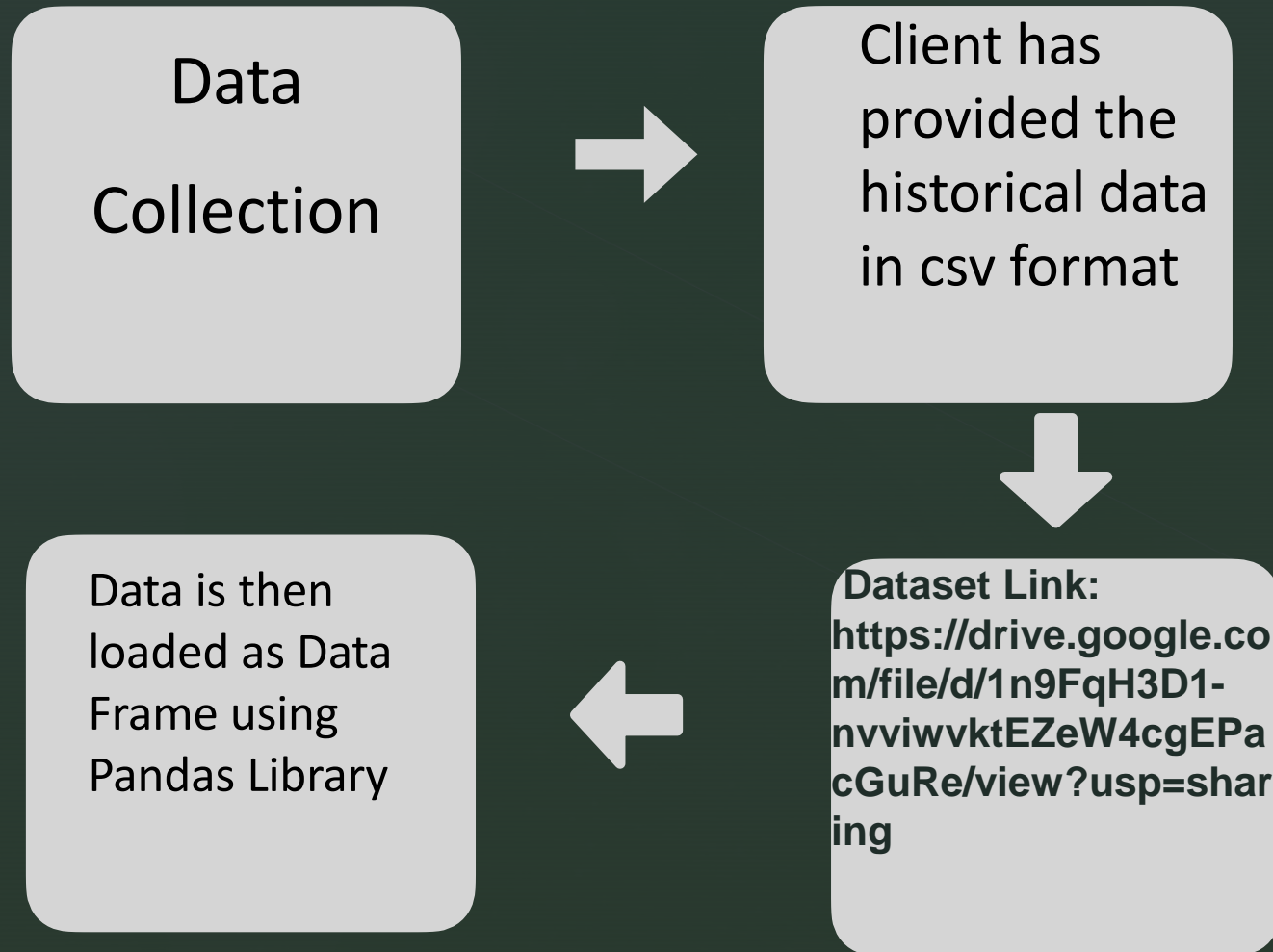
- Flight Duration
- Demand
- No of stops
- Route
- No of days in advance the booking is made
- Time of Departure & Arrival

# METHODOLOGY



- Data Collection through:
  - Client has provided the historical data in csv format
  - Dataset Link:
    - Link: <https://drive.google.com/file/d/1n9FqH3D1-nvviwvktEZeW4cgEPacGuRe/view?usp=sharing>
- Data Wrangling
  - Filtering the data
  - Dealing with null values
  - Dealing with outliers
- Data Analysis & Visualization using:
  - Pandas
  - Matplotlib & Seaborn

# Data Collection





# Data Wrangling

In the data set, there are null entries. We filtered them out to get unique row entries.

There are two columns which did not have any data. They are dropped.

Few features had inappropriate datatype which we have changed to suitable datatype.

Two new column is created for Duration column duration minute & duration slab

'Price' and 'Duration minute' columns has outliers which are filtered out using IQR

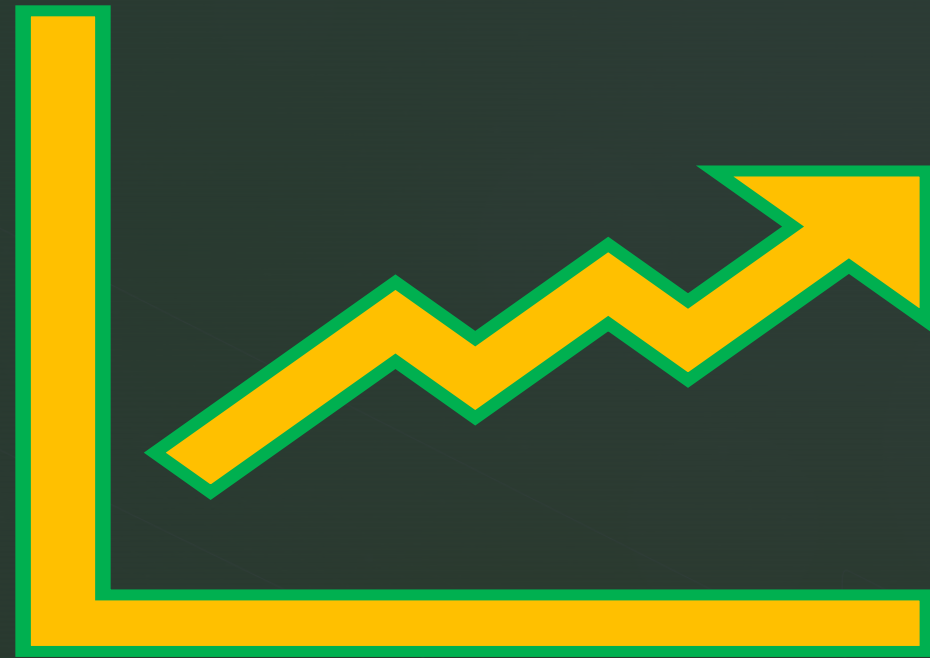
**Filtering Null Entries**

**Dropping Columns with no data**

**Changing Suitable Datatype**

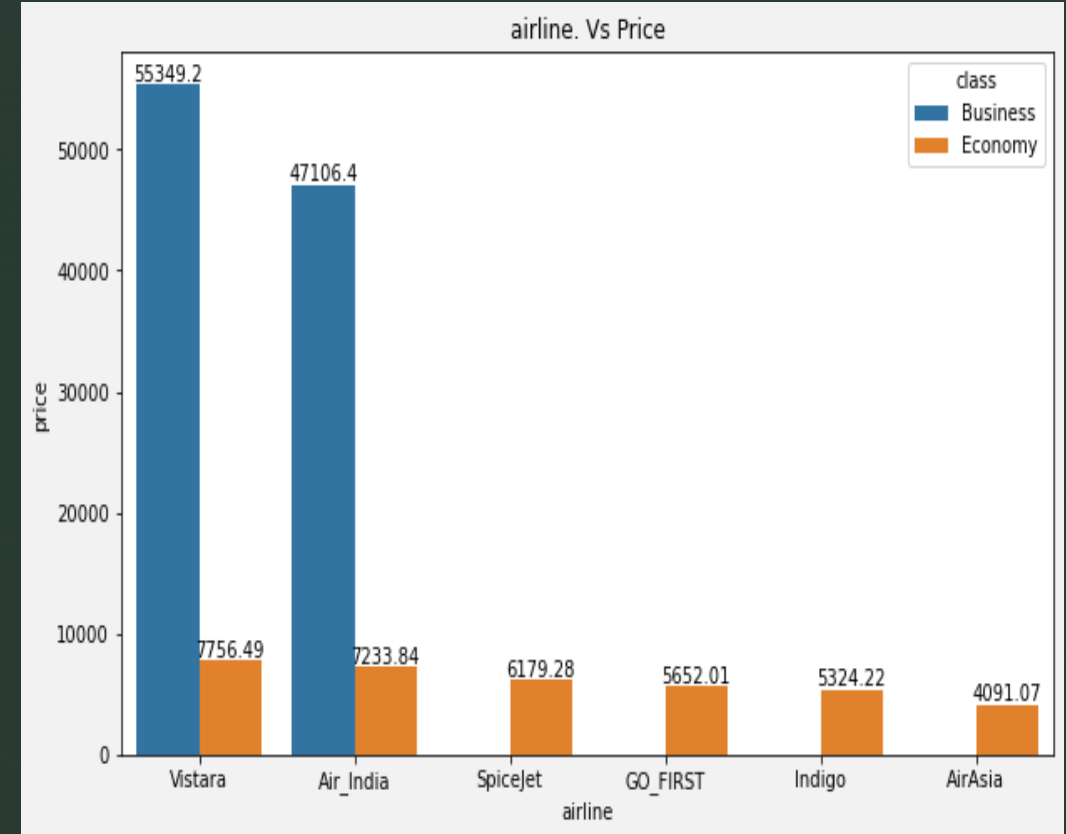
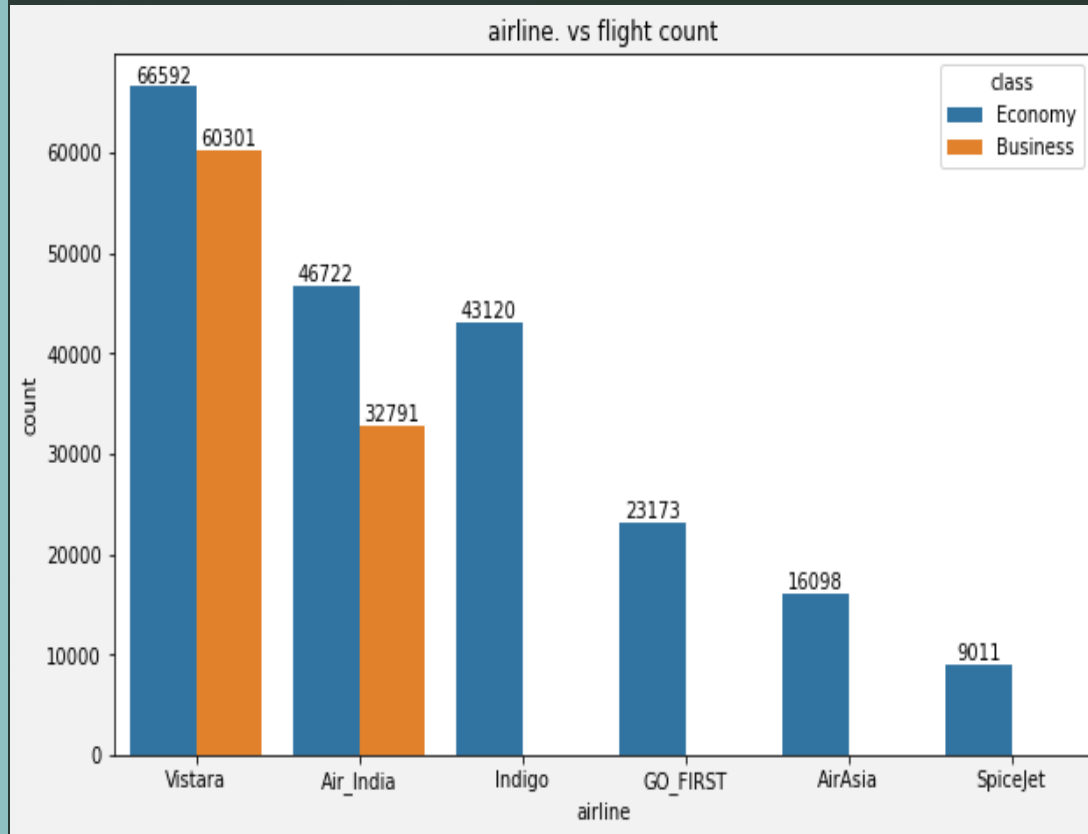
**Detecting & Removing Outliers**

# DATA VISUALIZATION





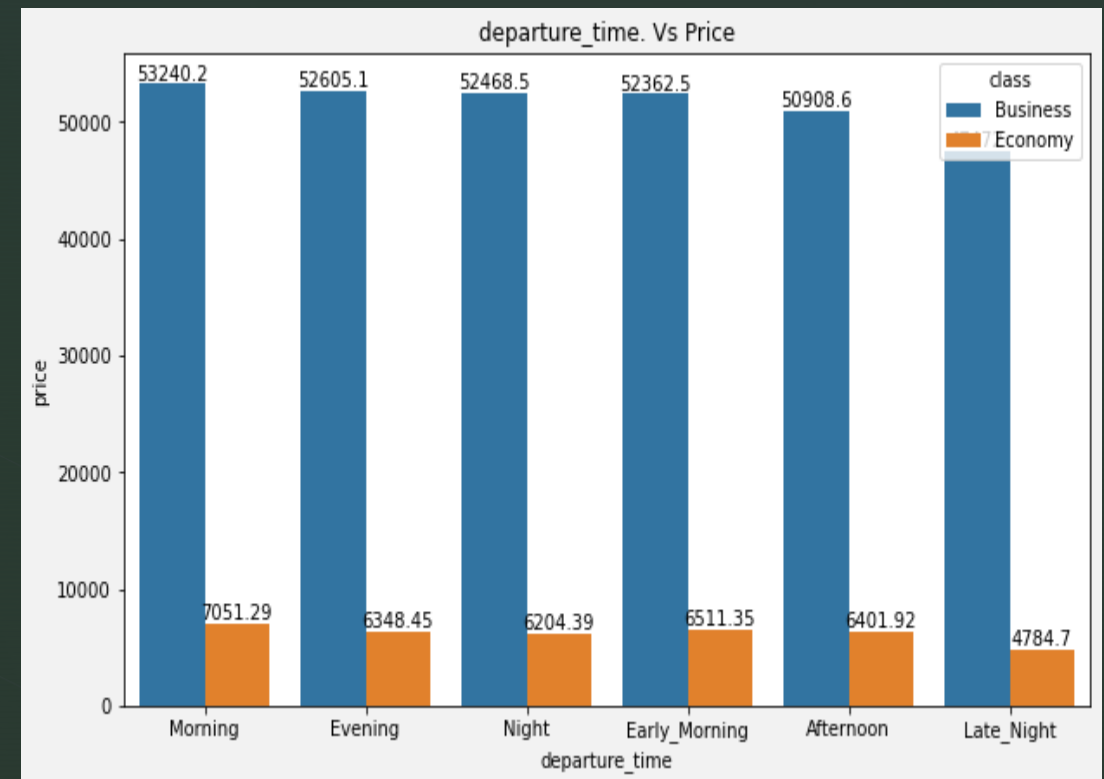
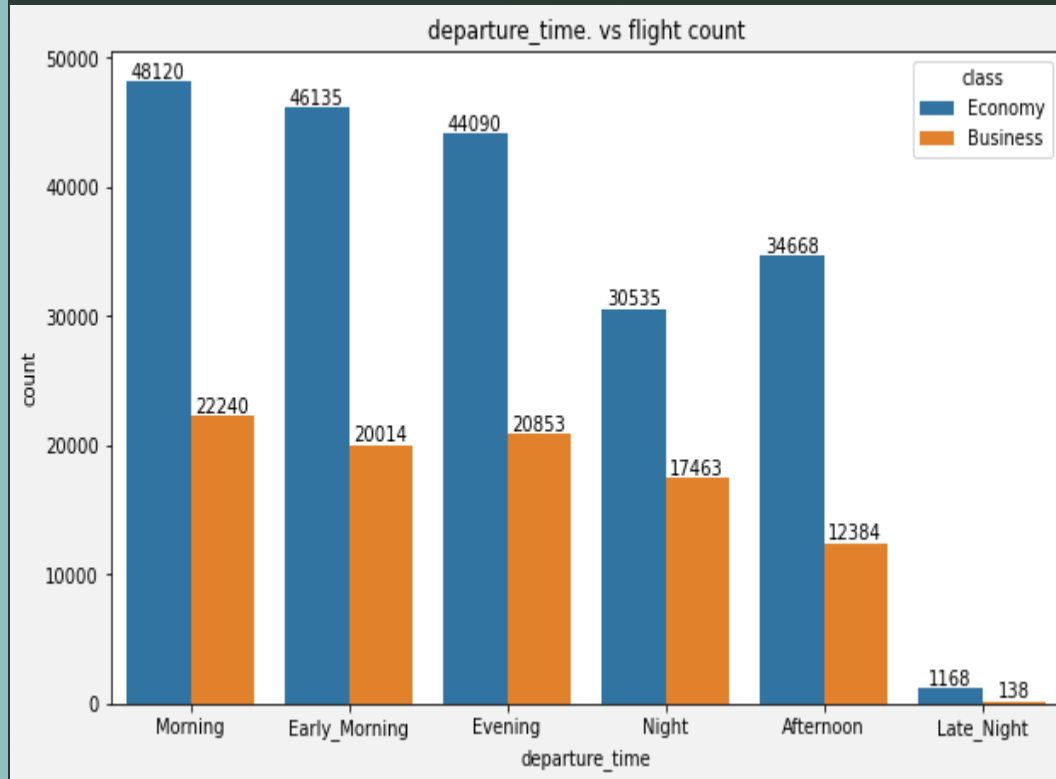
# ► Airline wise Analysis



## Conclusion

Vistara runs highest number of Flights and also their average flight fare is higher.

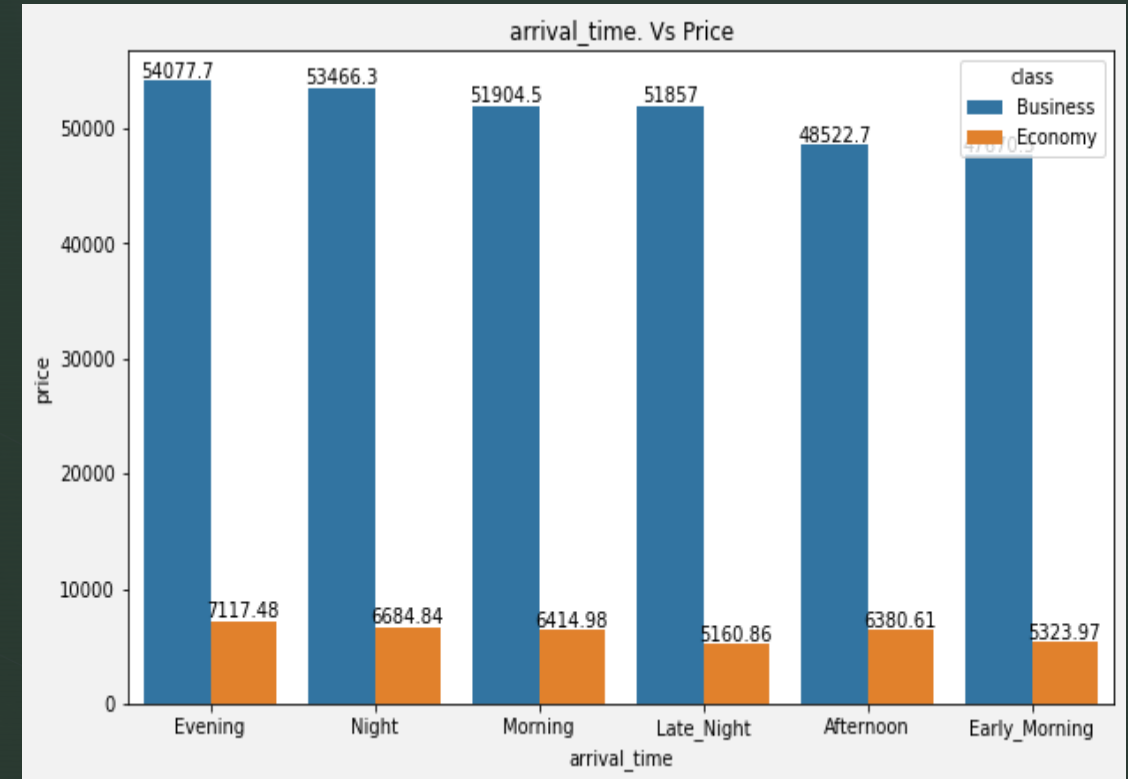
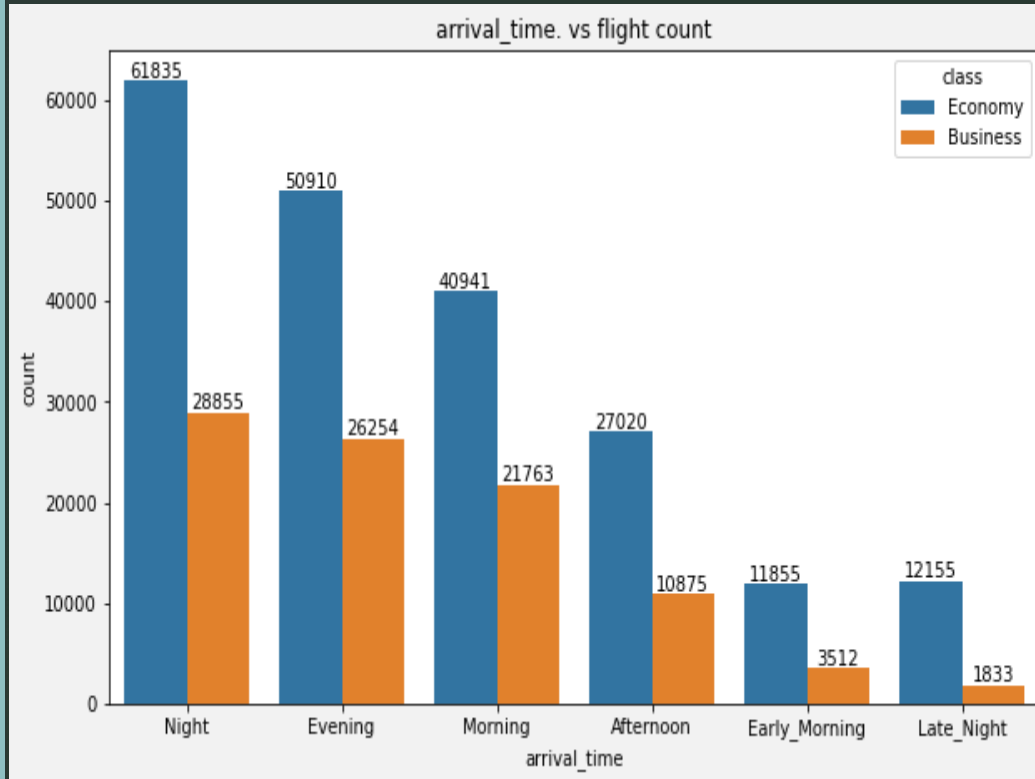
# ► Departure Time Analysis



## Conclusion

Highest number of Flights runs in Morning and also average flight fare is higher than other time

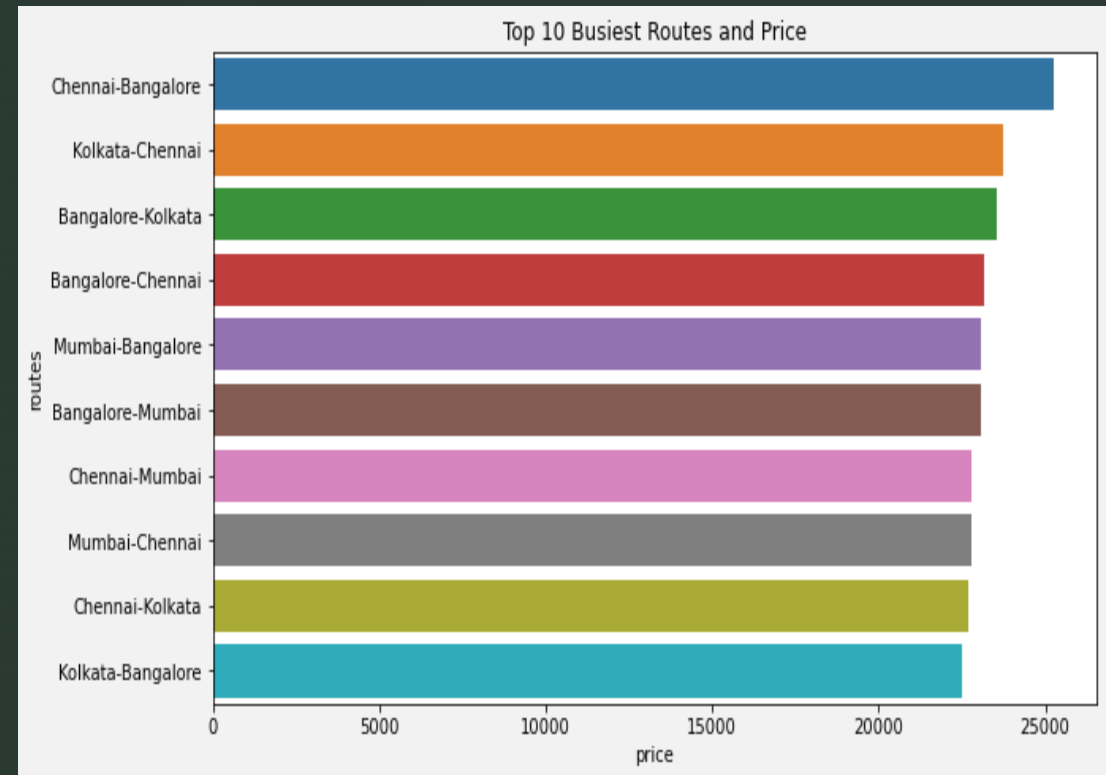
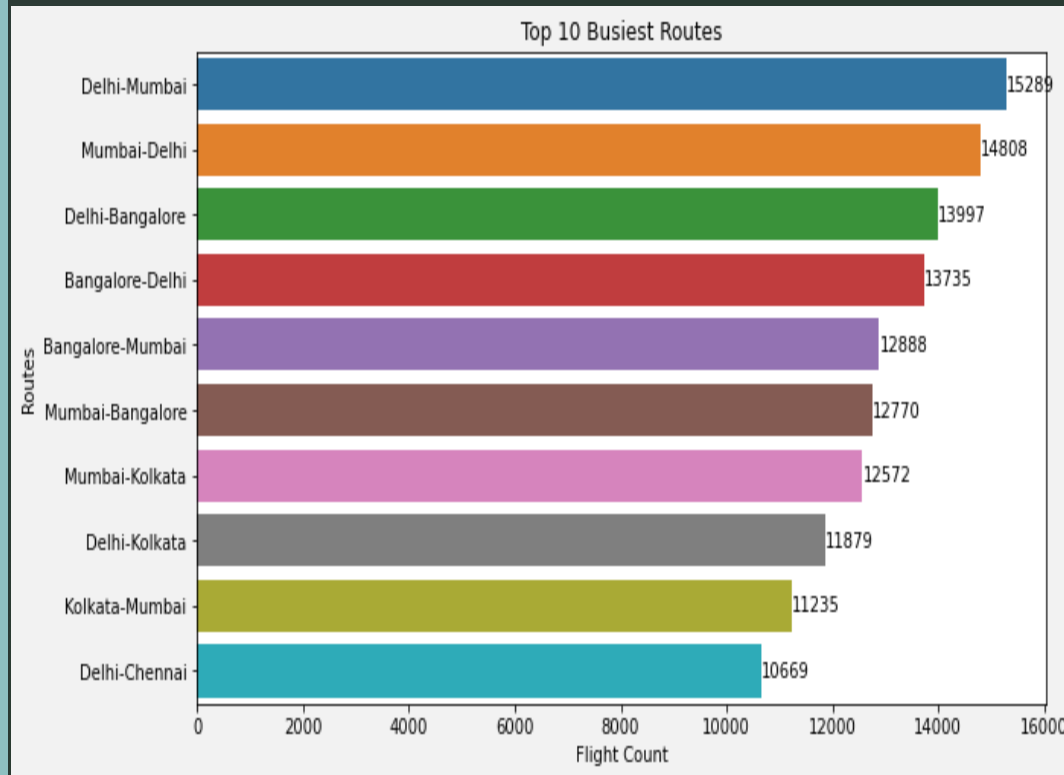
# ➤ Arrival Time Analysis



## Conclusion

Highest number of Flights arrives at Night and average flight fare for flight arriving in evening is higher

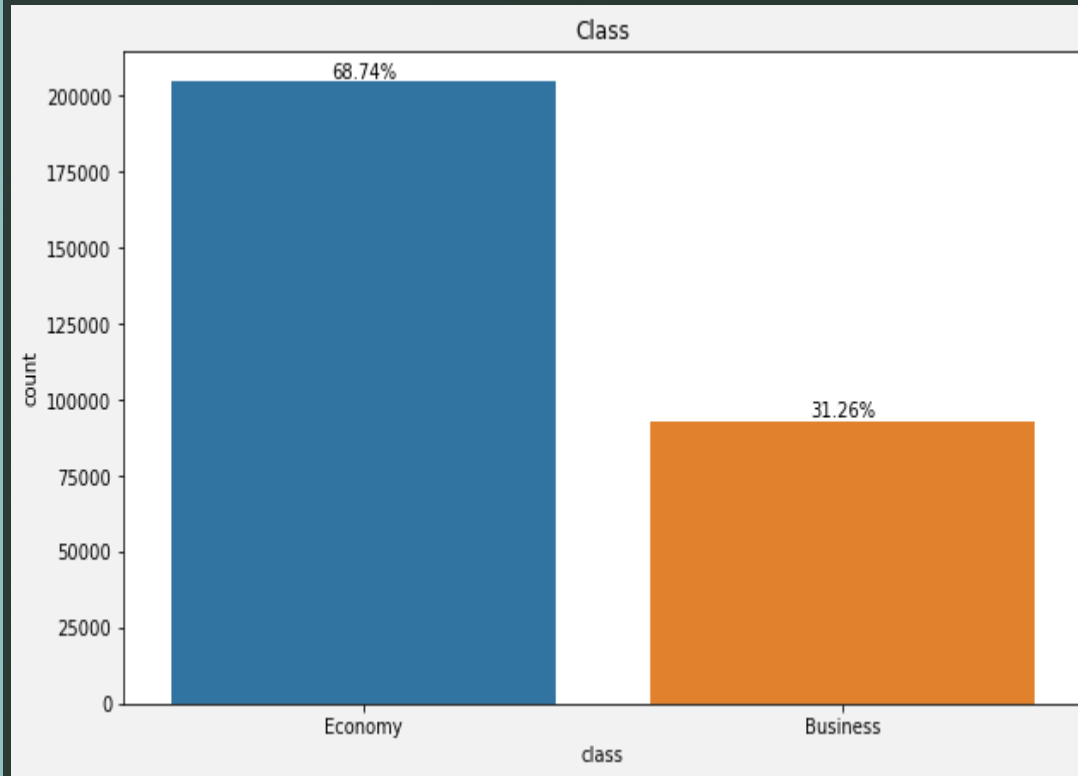
# Top 10 Busiest Routes



## Conclusion

Delhi-Mumbai is the busiest routes & Chennai-Bangalore routes flight fare is higher than other

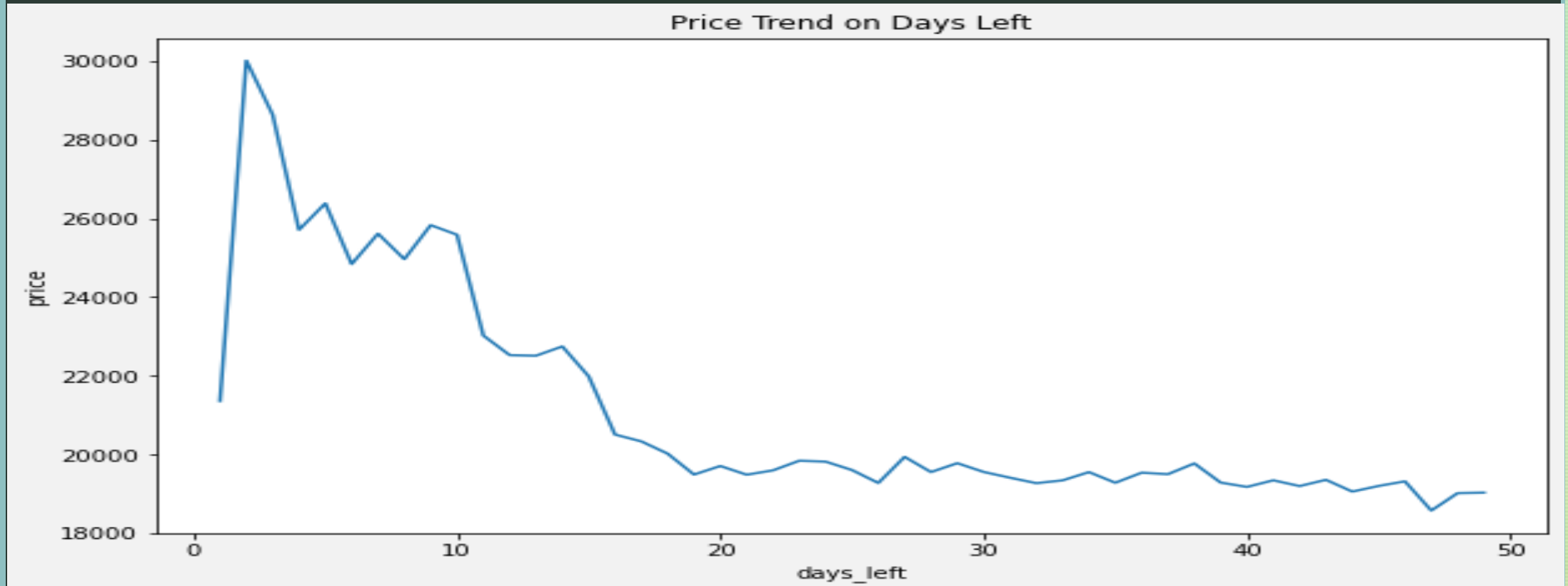
# Class Analysis



## Conclusion

Economy class comprises almost 69% and business class 31% of total flights . Average Business class Flights Fare is 52445.8 and Average Economy class Flights Fare is 6529.02

## Price Trend on Days Left

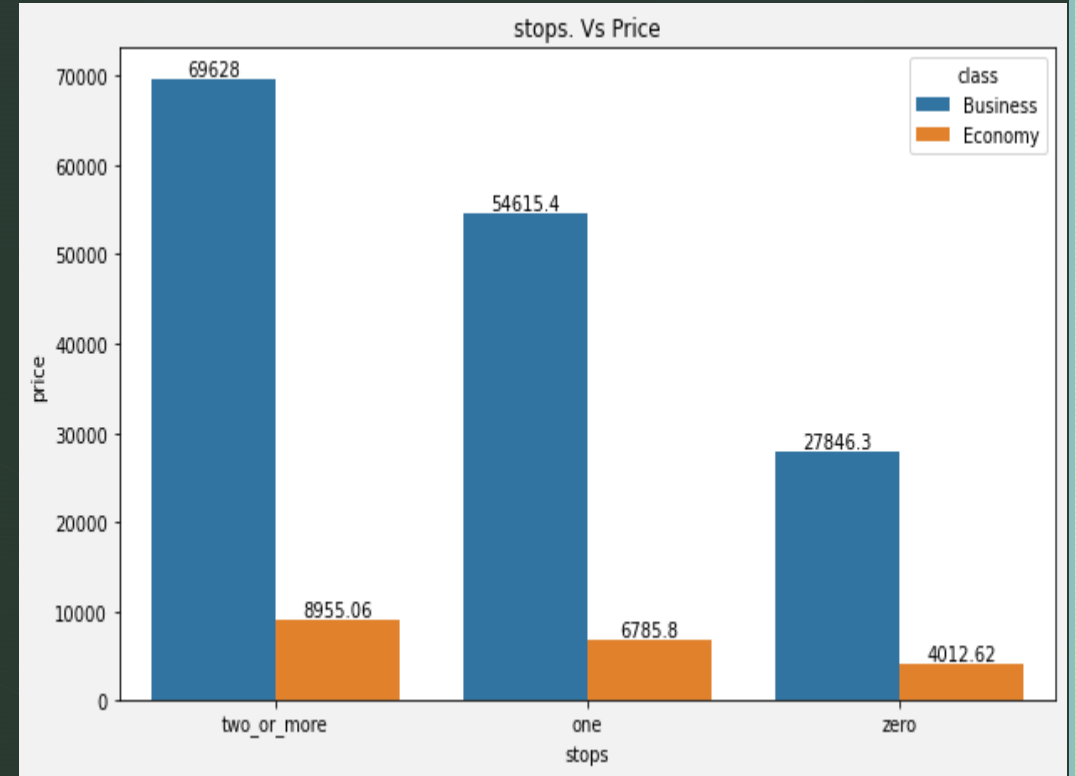
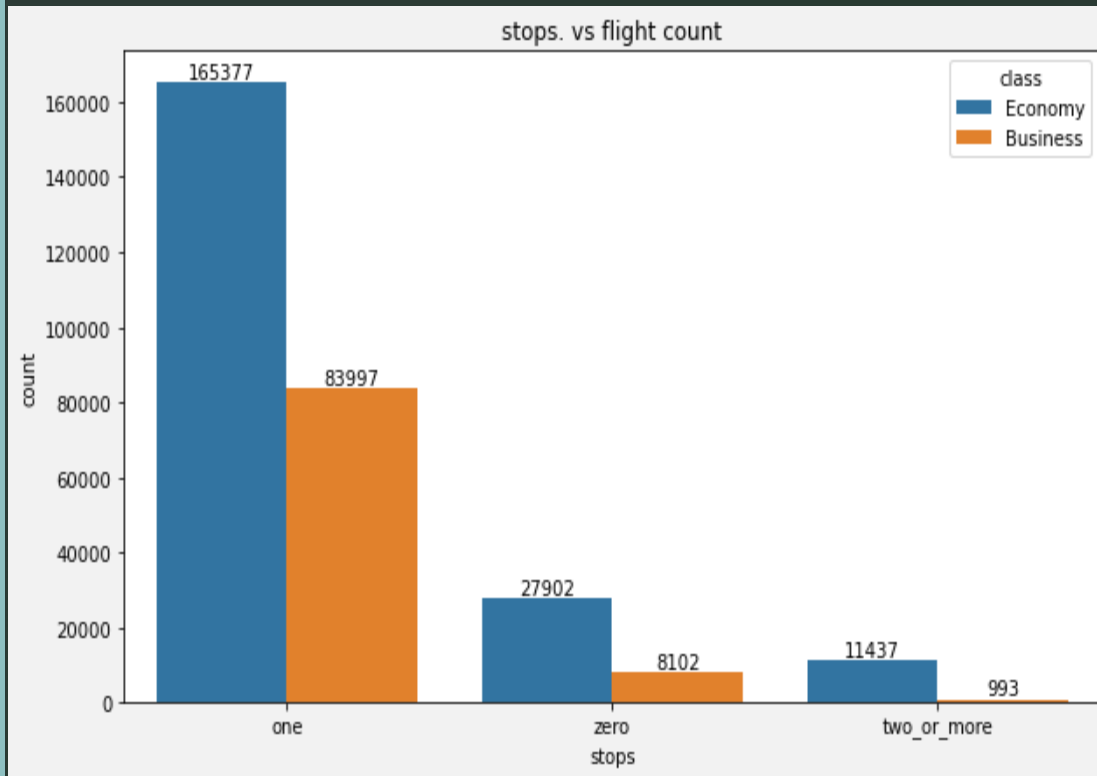


### Conclusion

Earlier the Flight is booked lesser is the price.



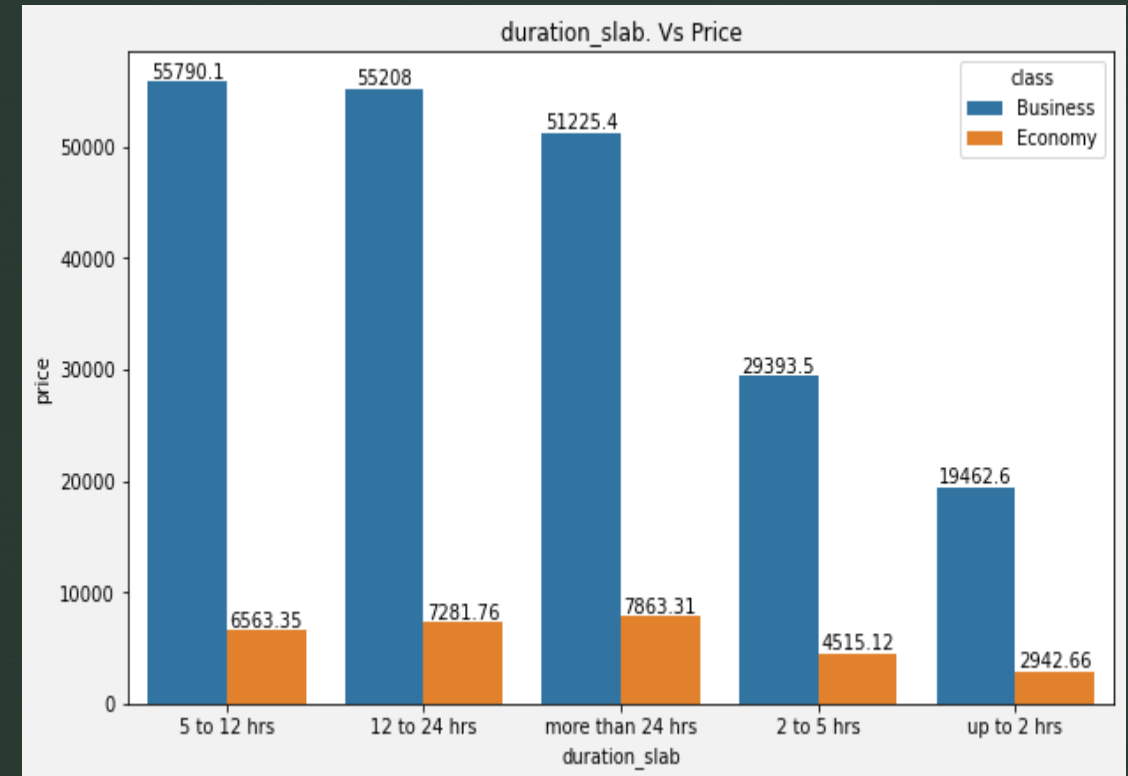
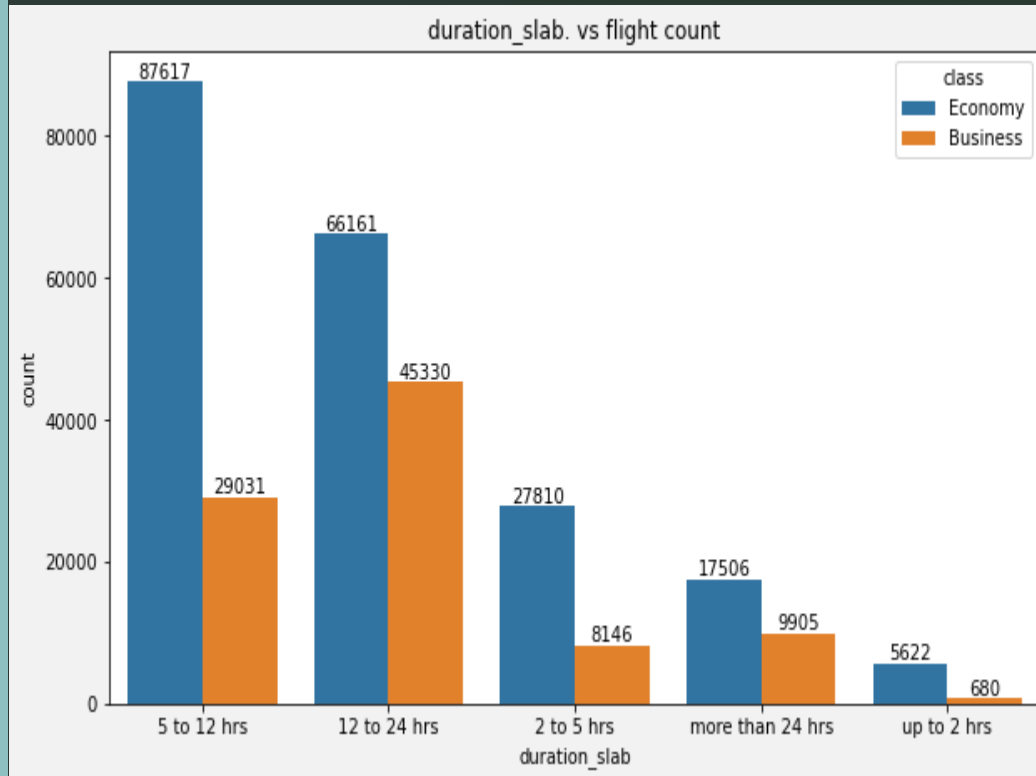
# Stops Analysis



## Conclusion

One stops flights are more frequent than others. Average Flight fare is maximum having two or more stops.

# Duration Slab Analysis



## Conclusion

Highest numbers of Flights operates for 5 to 12 hrs. of duration . Flight fare is maximum for duration 5 to 12 hrs. and minimum fare for duration up to 2 hrs.

# Conclusion

- Airline: Vistara runs highest number of Flights and also their average flight fare is higher.
- Departure Time: Highest number of Flights runs in Morning and also average flight fare is higher than other time.
- Arrival Time: Highest number of Flights arrives at Night and average flight fare for flight arriving in evening is higher.
- Routes: Delhi-Mumbai is the busiest routes & Chennai-Bangalore routes flight fare is higher than other.
- Class: Economy class comprises almost 69% and business class 31% of total flights. Average Business class Flights Fare is 52445.8 and Average Economy class Flights Fare is 6529.02.
- Days left: Earlier the Flight is booked lesser is the price.
- Duration slab: Highest numbers of Flights operates for 5 to 12 hrs. of duration . Flight fare is maximum for duration 5 to 12 hrs. and minimum fare for duration up to 2 hrs.
- Stops: One stops flights are more frequent than others. Average Flight fare is maximum having two or more stops.

Thank You

Jayashree Saha

