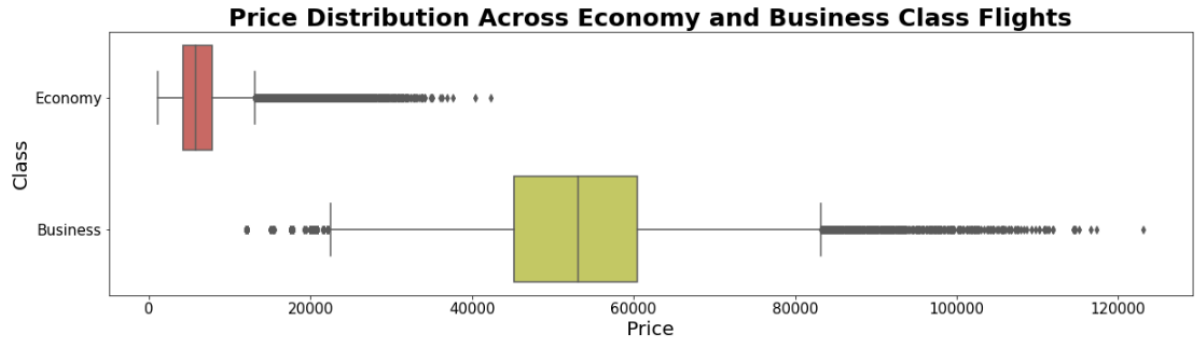
INSIGHTS

PRICE DISTRIBUTION ACROSS ECONOMY AND BUSINESS CLASS FLIGHTS



This boxplot compares the distribution of prices for two different flight classes: Economy and Business. Here are some key insights:

Economy Class:

- The median price is relatively low, falling below 10,000.
- The price distribution is skewed to the right, indicating the presence of many outliers (higher-priced tickets). These outliers suggest that while most Economy fares are concentrated in a narrow range, a few flights have unusually high prices.
- The interquartile range (IQR), represented by the box, is small, showing that the central 50% of Economy prices are tightly clustered.

Business Class:

- Business class tickets show a much broader range of prices, with the median around 60,000.
- The distribution is also skewed, but it has more significant variation in ticket prices, as indicated by a larger IQR.
- There are extreme outliers, but these are less numerous compared to the Economy class, indicating that Business class prices are more spread out but have fewer extreme fluctuations compared to Economy.

PRICE DISTRIBUTION ACROSS AIRLINES FOR BUSINESS AND ECONOMY CLASSES

The two boxplots provided show “Price Variation by Airline” for two classes of flights: “Business” (on the left) and “Economy” (on the right). Here are the insights and conclusions based on this comparison:

Business Class (Air India vs. Vistara):

1. Price Distribution:

- **Air India:** The median price is slightly lower compared to Vistara, and the price distribution shows some variability with prices ranging from around 20,000 to 80,000. There are several high outliers above 80,000.
- **Vistara:** The prices are clustered higher, with a median above Air India's. The price range extends from 20,000 to around 100,000, but there are fewer outliers compared to Air India.

2. Price Variability:

- Vistara has a broader price range, extending beyond 100,000, indicating that it can be more expensive for business class compared to Air India.
- Air India has a tighter distribution, with fewer extremely high-price flights, though it still has significant outliers.

3. Outliers:

- Both airlines have notable high outliers, indicating that for certain flights or special cases, prices can be exceptionally high.

Economy Class (Multiple Airlines):

1. Price Distribution:

- **SpiceJet:** Has the lowest median price, with most prices falling under 10,000, making it a more affordable option in economy class. There are a few outliers that extend beyond 20,000.
- **AirAsia:** Similar to SpiceJet, the median price is low, but the upper whisker and outliers extend higher, indicating a larger variation in prices.
- **Vistara:** Has a relatively higher median price compared to SpiceJet and AirAsia, with prices reaching around 40,000 for some outliers.
- **GO FIRST:** Displays a distribution similar to Vistara, though its median price is slightly lower.
- **Indigo:** Shows lower price variability, but there are many high-price outliers, suggesting some flights can be much more expensive.
- **Air India:** Has the highest median price in the economy class, with a wide range of prices, indicating that Air India tends to be the most expensive for economy travellers among the airlines shown.

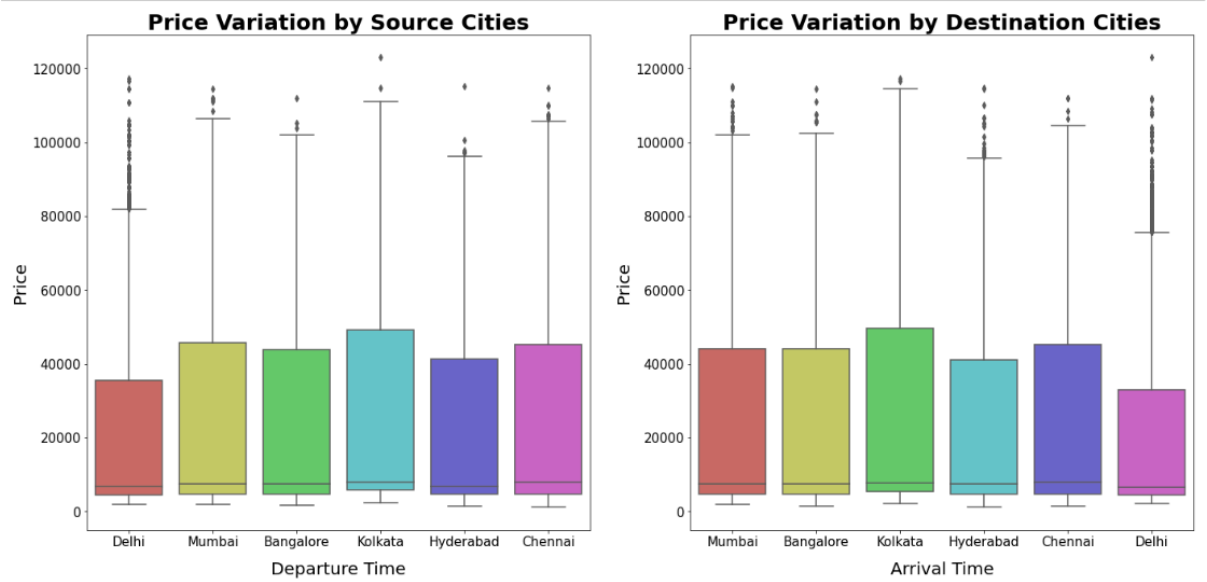
2. Price Variability:

- Air India and Vistara show the largest variation in economy class prices, likely reflecting different service offerings, route structures, or time of booking.
- SpiceJet and AirAsia have the least variation, implying a more consistent pricing strategy, with fewer extreme high-priced flights.

3. Outliers:

- All airlines have outliers, especially “Air India” and “Vistara”, indicating that in certain scenarios (e.g., last-minute bookings, peak seasons), prices can spike substantially.
- Even budget airlines like “SpiceJet” and “AirAsia” show some high-price outliers, though less frequent.

PRICE VARIATION BASED ON SOURCE AND DESTINATION CITIES



The image contains two box plots comparing price variation by source cities (left plot) and destination cities (right plot).

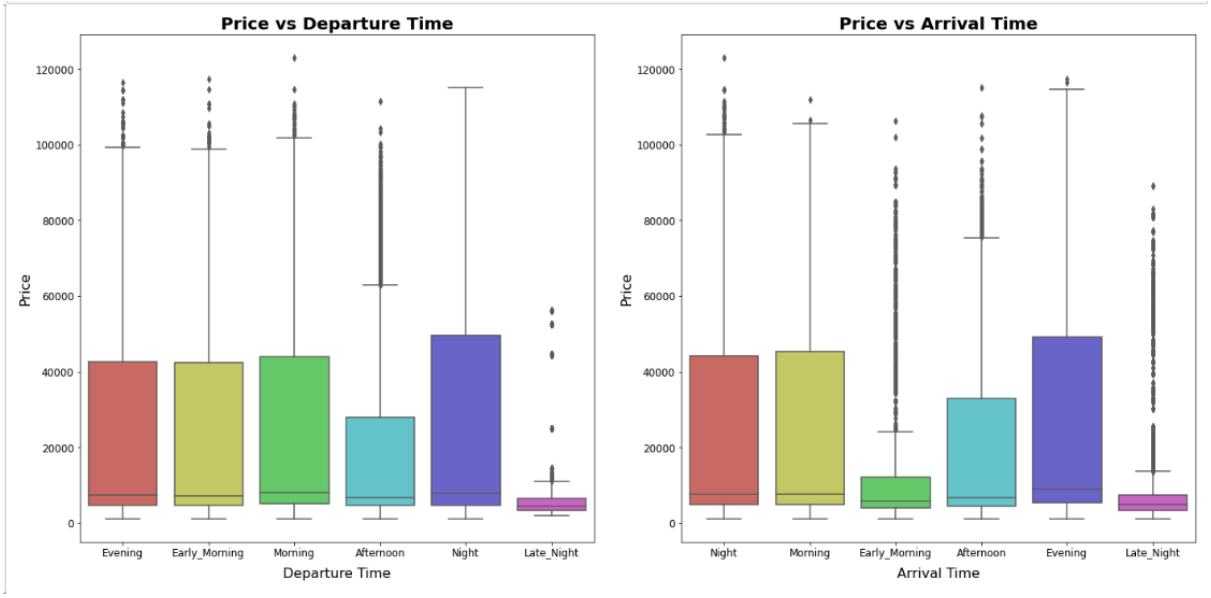
1. Price Variation by Source Cities (Left Plot):

- Flights departing from “Mumbai”, “Kolkata”, and “Chennai” show the highest price ranges, with prices reaching up to 120,000.
- The median prices for “Delhi”, “Mumbai”, and “Hyderabad” are lower compared to other cities, hovering between 20,000 and 40,000.
- “Bangalore” and “Chennai” also have a wide price distribution, with outliers driving prices upwards.
- “Kolkata” shows the widest range of prices with the highest variability.

2. Price Variation by Destination Cities (Right Plot):

- Destination cities exhibit a similar price pattern to the source cities.
- “Mumbai”, “Kolkata”, and “Chennai” are among the more expensive destination cities, with higher price ranges and outliers reaching 120,000.
- “Delhi”, despite being a major hub, shows lower price variability compared to other destinations, with a median price similar to other cities.
- “Hyderabad”, “Bangalore”, and “Chennai” show more evenly distributed price ranges, with medians around 20,000–40,000.

PRICE VARIATION BASED ON DEPARTURE AND ARRIVAL TIME



The charts illustrate the relationship between flight prices and both departure and arrival times. Each box plot shows the distribution of prices across different time ranges for departures and arrivals.

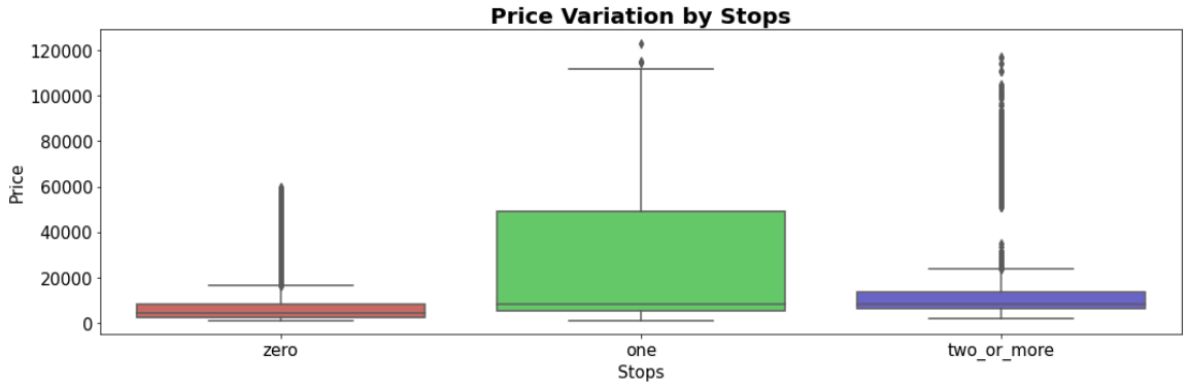
1. Price Variation by Departure Time:

- “Evening and Night flights” tend to have a wider price range, with higher median prices.
- “Early Morning and Morning flights” show more consistent prices with a narrower interquartile range, but still have some higher outliers.
- “Late Night flights” are generally the cheapest, with the smallest interquartile range and lower median prices.

2. Price Variation by Arrival Time:

- “Night and Evening arrivals” show higher median prices and a wider spread, similar to the departure trends.
- “Early Morning arrivals” are notably cheaper, showing a significantly lower price range.
- “Late Night arrivals” remain the least expensive, as with the departure data.

EFFECT OF STOPS ON PRICE



The boxplot you provided shows the “Price Variation by Stops” for flights categorised into three groups: “zero stops”, “one stop”, and “two or more stops”. Here are the key insights and conclusions:

1. Price Distribution:

- **Zero Stops :** The price for flights with no stops has a relatively tight range, with the majority of prices concentrated at a lower value (below 20,000 units). There are a few outliers extending above 20,000.
- **One Stop :** This category shows a much wider price range, indicating significant variability in flight costs. The median price is higher than that of zero-stop flights, and the upper whisker extends beyond 100,000 units, showing several high outliers.
- **Two or More Stops :** Similar to zero stops, flights with two or more stops show a relatively narrow price range. Most prices are concentrated below 20,000, but there are several outliers that push the upper limit above 50,000.

2. Median Price:

- The median price for “one-stop flights” is significantly higher than for both “zero stops” and “two or more stops”.
- “Zero-stop” and “two-or-more-stop” flights have comparable medians, suggesting these types of flights tend to be more affordable.

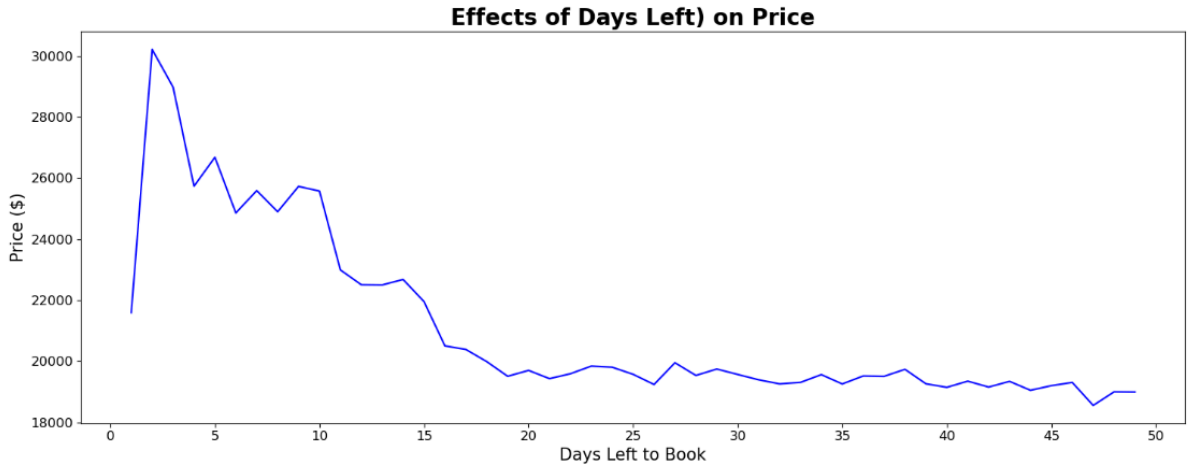
3. Price Variability:

- “One-stop flights” show the highest variability, indicating that prices fluctuate significantly for this category. This could be due to a broader range of flight durations, layover times, or airline pricing strategies.
- The price range for “zero stops” and “two or more stops” is more compressed, showing less variability.

4. Outliers:

- All categories show some outliers, particularly in the “two or more stops” and “one-stop” flights, where outliers are priced far above the typical range. These could represent luxury services, peak-season flights, or last-minute bookings.

IMPACT OF DAYS LEFT ON PRICES



1. Sharp Decrease in Price within 10 Days:

- Ticket prices are significantly higher when the booking is made closer to the departure date (i.e., less than 10 days left).
- The highest price is observed when booking occurs with less than a few days to departure, where the price spikes above 30,000.
- Prices drop dramatically from this peak after about 5 days before departure.

2. Steady Decline After 10 Days:

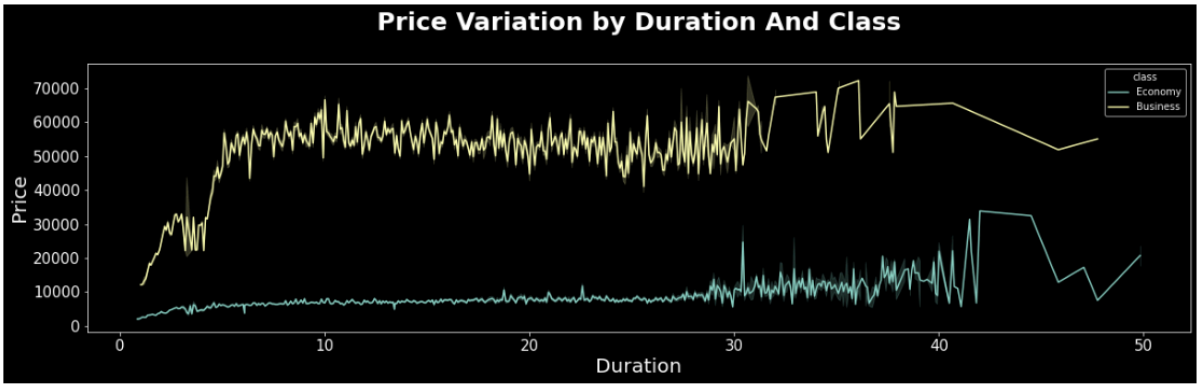
- After the 10-day mark, the ticket prices steadily decline.

- There is a continued gradual reduction in price as more days are available for booking.

3. Price Stabilization Beyond 20 Days:

- After approximately 20 days, prices stabilise and remain relatively constant.
- Between 20 and 50 days before departure, the ticket prices fluctuate between 18,000 and 20,000, showing no significant increases or decreases.

PRICE TRENDS BY DURATION AND CLASS FOR BUSINESS AND ECONOMY TICKETS



The line plot provided shows “Price Variation by Duration and Class” for both “Economy” and “Business” classes over varying flight durations (in hours). Here's a breakdown of the key insights:

1. Price Trends Based on Duration:

Economy Class (blue line):

- The price remains relatively consistent across different durations, with minor fluctuations.
- There are a few spikes around the 35-45 hour range, suggesting that flights of longer duration may have higher prices in certain cases, but overall, the price tends to stay below 20,000 units.

Business Class (yellow line):

- The price shows a clear increasing trend as the duration increases, especially between the 0 to 30-hour mark. After that, there is more fluctuation, and the price tends to plateau or spike around 40 to 50 hours.
- Business class fares are significantly higher than economy fares throughout all durations, frequently exceeding 60,000 units for flights longer than 30 hours.

2. Class-Based Price Differences:

- **Business Class:** Prices for business class are consistently higher than for economy class, with a much steeper increase as flight duration extends. Business class prices peak near 70,000 units for longer flights, making it considerably more expensive for longer-haul travel.
- **Economy Class:** Prices remain relatively stable and lower throughout, with minimal increase as duration increases. Most of the economy fares stay under 20,000 units, even for longer flights.

3. Price Stability:

- **Economy Class:** Shows greater price stability and consistency, especially for shorter durations (under 30 hours). The pricing is less sensitive to duration, implying that economy prices are more predictable.
- **Business Class:** The price is highly variable with increasing duration, particularly in the 0 to 30-hour range. This suggests that for business class, the relationship between price and duration is more dynamic and likely influenced by additional factors (e.g., layovers, service level, flight demand).

4. Price Spikes:

- Both classes experience a few price spikes at longer durations (around 35-45 hours), but the spikes are much more pronounced for business class. These spikes may represent special cases such as premium services, layover times, or flight demand on specific routes.

CONCLUSION

PRICE DISTRIBUTION ACROSS ECONOMY AND BUSINESS CLASS FLIGHTS

- “Economy fares” tend to be more consistent but with occasional high-price outliers.
- “Business fares” show a broader price range, with more variation in ticket pricing and a higher overall cost.

This analysis suggests that Economy passengers might see more occasional spikes in pricing, while Business class passengers experience a wider spread in ticket prices, likely due to factors such as demand or timing.

The image contains two box plots displaying the price variation by airline, categorised into Business and Economy classes.

PRICE DISTRIBUTION ACROSS AIRLINES FOR BUSINESS AND ECONOMY CLASSES

- “Vistara” offers significantly higher prices for both business and economy classes compared to other airlines.
- “AirAsia” provides the most affordable economy class tickets.
- Both “business” and “economy” fares exhibit price outliers, indicating occasional high prices, possibly due to demand spikes, booking timings, or other external factors.

The graph shows the effect of the booking window (days left until departure) on the ticket price.

- **Business Class:** Vistara tends to be more expensive than Air India on average, though both airlines have a wide range of prices. If consistency and slightly lower prices are desired, Air India may be the better option.
- **Economy Class:** SpiceJet and AirAsia offer the most affordable and consistent pricing, while Air India and Vistara show higher price points and variability. Travellers looking for lower economy fares might prefer SpiceJet or AirAsia, but should be aware of potential price spikes due to outliers.

PRICE VARIATION BASED ON SOURCE AND DESTINATION CITIES

- “Mumbai” and “Kolkata” are generally associated with higher airfares, both as source and destination cities, with greater price variability.
- “Delhi” offers relatively stable prices in both categories, making it a less volatile option.
- The presence of significant outliers across cities may suggest that demand surges or last-minute bookings could be affecting prices in these locations.

PRICE VARIATION BASED ON DEPARTURE AND ARRIVAL TIME

- “Flights departing or arriving during the Late Night tend to be cheaper”, both in terms of median and overall price distribution.
- “Evening and Night departures and arrivals” generally command higher prices, likely due to higher demand during these times.
- “Early Morning flights” provide a middle ground with lower variability but may still have some higher-end prices depending on demand.
- The pattern suggests a “correlation between flight demand and time of day” with prices rising during more popular travel times (Evening/Night) and being more affordable during less common travel hours (Late Night/Early Morning).

EFFECT OF STOPS ON PRICE

- If price is the main concern, “zero stops” or “two or more stops” tend to offer lower and more consistent pricing compared to “one-stop flights” which show significant price variation.
- “One-stop flights” may represent more flexible options but at a higher and less predictable cost.

IMPACT OF DAYS LEFT ON PRICES

- Booking tickets at least 20 days before the departure tends to result in significantly lower prices, with the most dramatic price reductions occurring between 0 and 10 days before departure.
- As the days left to book increase, the price reaches a plateau, offering better deals for early planners.

PRICE TRENDS BY DURATION AND CLASS FOR BUSINESS AND ECONOMY TICKETS

- “Business class” fares are highly sensitive to flight duration, with longer flights costing significantly more, peaking at around 70,000 units. The pricing becomes more erratic after 30 hours.
- “Economy class” remains a much more affordable and stable option, with prices staying well below 20,000 for most flights, regardless of duration. However, there are a few spikes at extended durations.
- For long-haul flights, “business class” becomes substantially more expensive, while “economy class” prices remain relatively consistent across all durations, making it a better option for cost-conscious travellers.