

SMART PHONE SPECIFICATION

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AIM OF THE PROJECT

The goal of this analysis is to explore and interpret a dataset containing various specifications of smartphones, uncovering key insights and patterns.



DATASET CLEANING

This dataset includes detailed information about a wide range of smartphones from different brands such as Apple, Xiaomi, and dataset.

REMOVE NULL VALUES

**If the dataset is large and
the number of null values
is small,you can remove
the rows or columns
containing null values.**

EXPLORATORY DATA ANALYSIS

EDA is a crucial step in understanding and interpreting a mobile phone dataset.

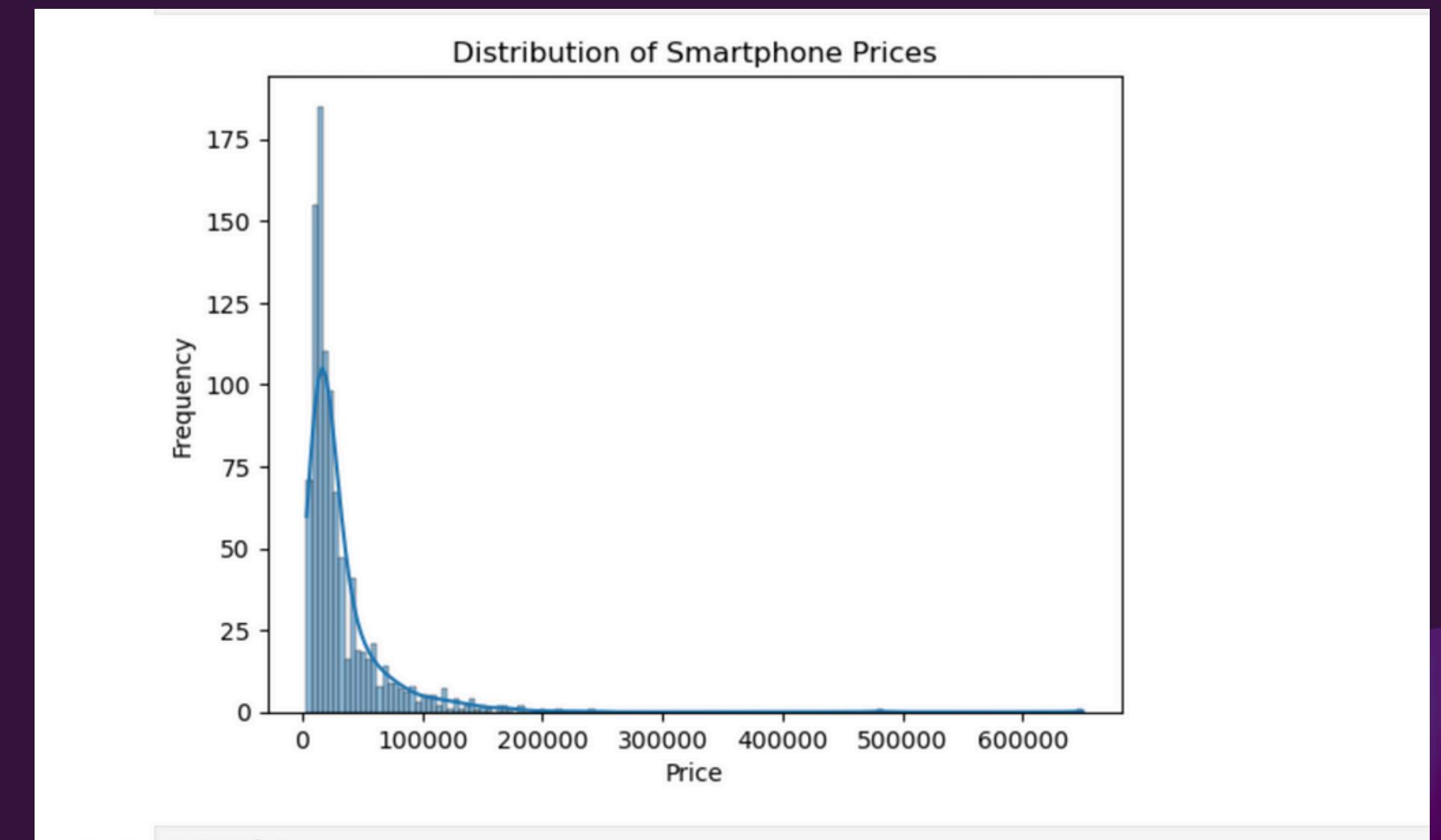
Data types:check the data types of each attribute(eg:numerical,categorical)



DATA VISUALIZATION -HISTOGRAM

Explanation: The histogram shows the distribution of smartphone prices in the dataset, with the KDE plot providing a smooth estimate of the data distribution.

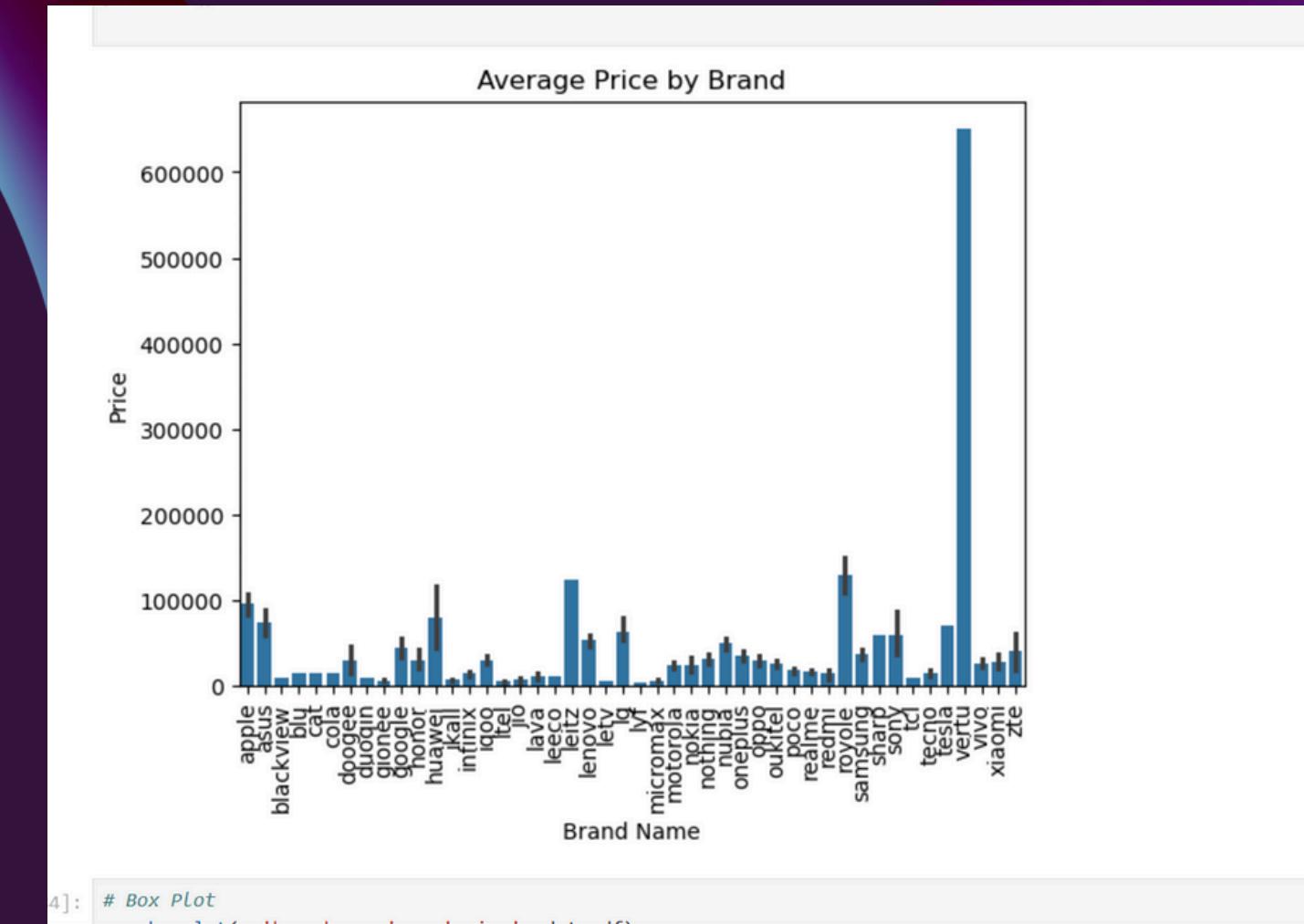
Insights: The histogram reveals the shape of the distribution (e.g., skewness), identifies the most common price ranges, observes the spread and variability of prices, and detects any potential outliers, helping to understand the overall pricing landscape of smartphones in the dataset.



DATA VISUALIZATION -BAR CHART

Explanation: The bar chart shows the average price of smartphones for each brand in the dataset, with the x-axis representing different brands and the y-axis representing the average price.

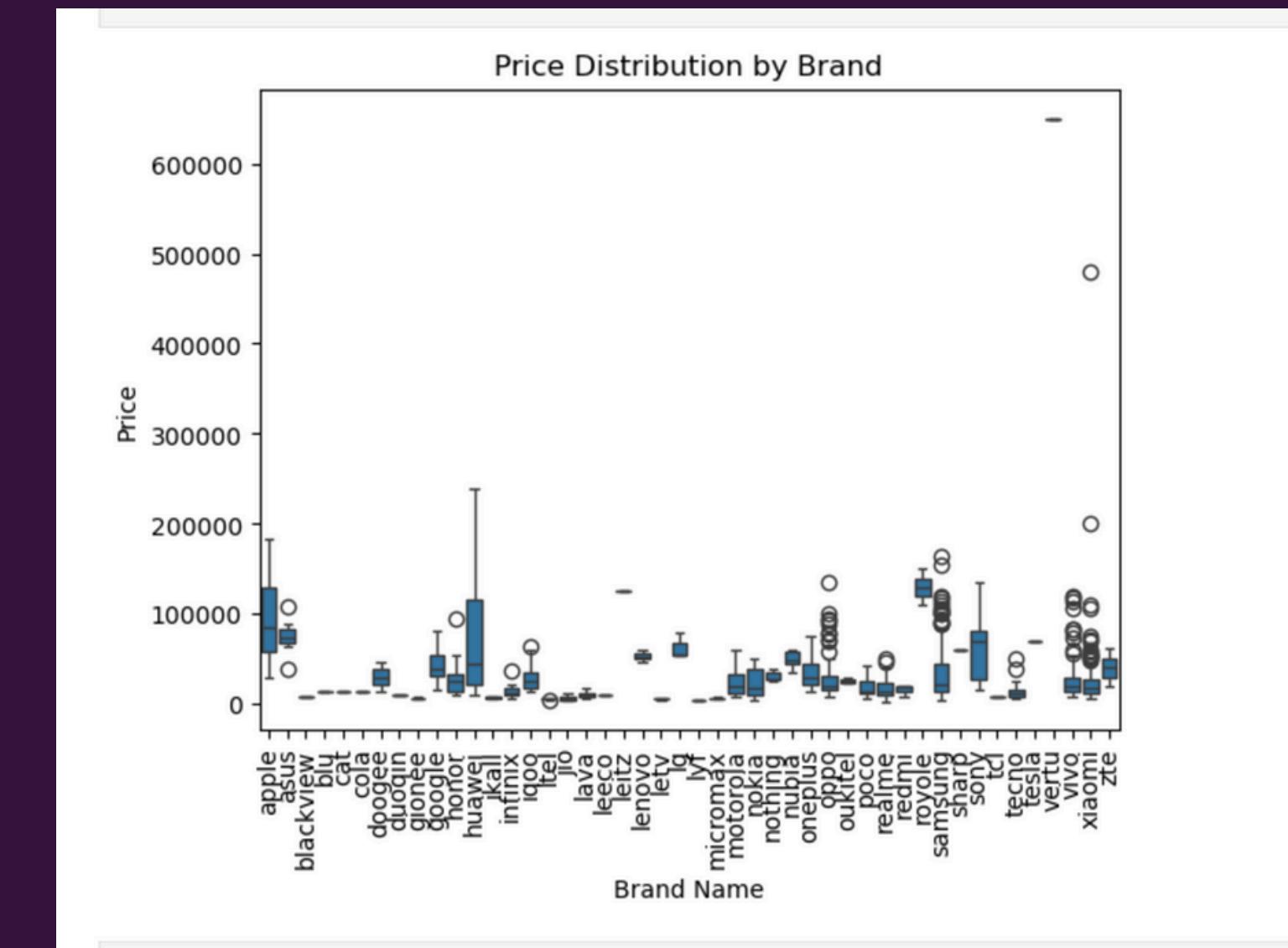
Insights: The bar chart reveals the average pricing strategy of different smartphone brands, highlighting which brands tend to price their devices higher or lower. This helps in comparing the pricing across brands and understanding market positioning.



DATA VISUALIZATION- BOX PLOT

Explanation: The box plot displays the distribution of smartphone prices for each brand in the dataset, with the x-axis representing different brands and the y-axis representing the price. The chart is titled "Price Distribution by Brand" and includes labels for both axes. The brand names on the x-axis are rotated for better readability.

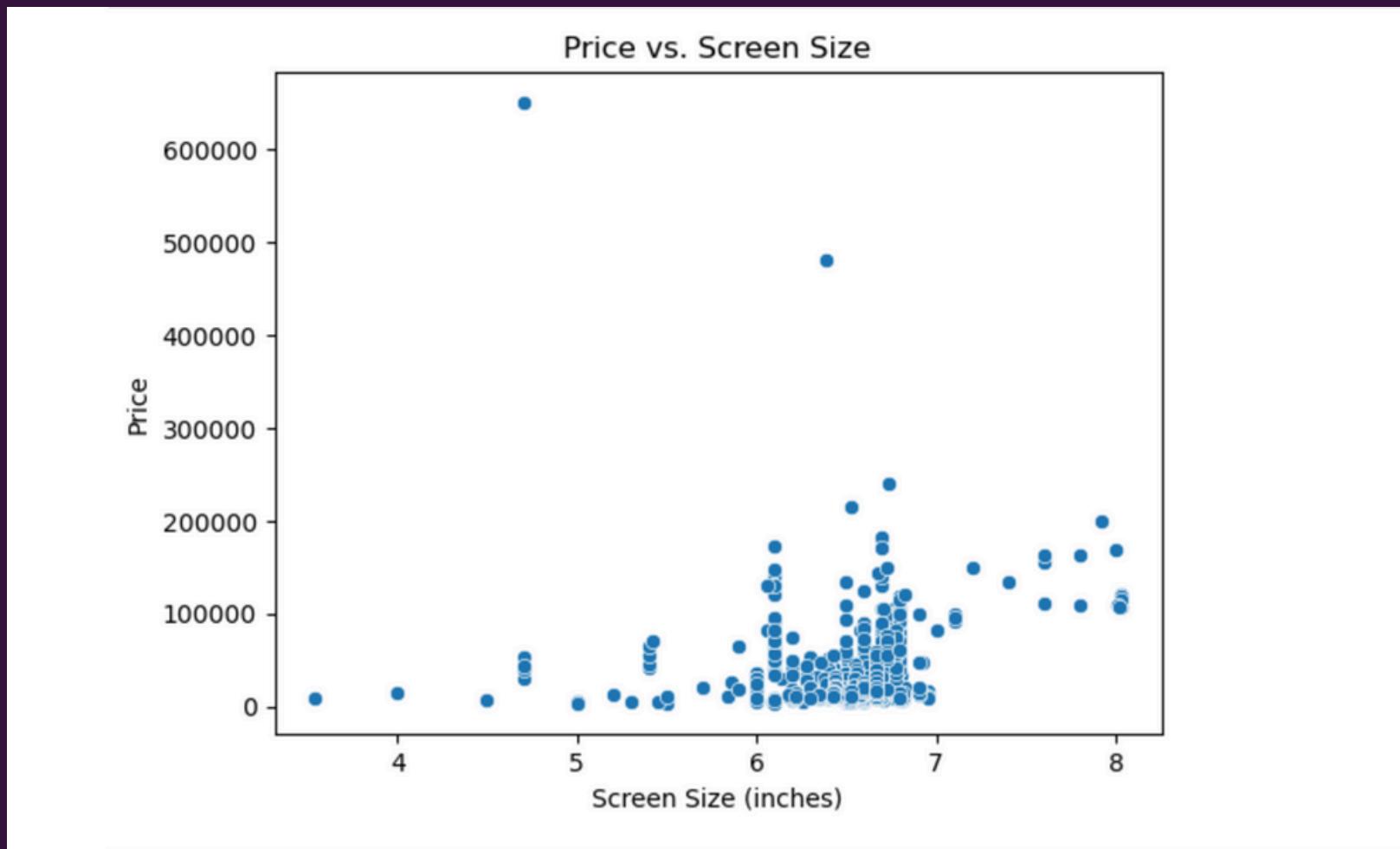
Insights: The box plot reveals the spread and variability of smartphone prices within each brand, highlighting the median price, interquartile range, and any outliers. This helps in understanding the price dispersion and identifying brands with more affordable or expensive products.



DATA VISUALIZATION - SCATTER PLOT

Explanation: The scatter plot illustrates the relationship between screen size and price of smartphones in the dataset, with the x-axis representing screen size in inches and the y-axis representing price. The chart is titled "Price vs. Screen Size" and includes labels for both axes.

Insights: The scatter plot reveals how smartphone prices vary with screen size, identifying any potential correlation or trend between these two variables. It helps in understanding whether larger screen sizes generally correspond to higher prices and spotting any outliers or patterns.



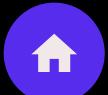
ONE SAMPLE T TEST

Interpretation: The one-sample t-test compares the average smartphone price in the dataset to a specified value of 30000. The t-statistic indicates the deviation of the sample mean from 30000 in units of standard error, while the p-value shows the probability of observing the data, or something more extreme, if the null hypothesis is true.

Insights:

p-value < 0.05: If the p-value is less than 0.05, we reject the null hypothesis, indicating that the average smartphone price is significantly different from 30000.

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CONCLUSION

Through our Exploratory Data Analysis (EDA) of smartphone specifications, we cleaned the data, calculated descriptive statistics, and visualized data distributions and relationships.

These insights help understand pricing strategies, feature correlations, and market positioning of different smartphone brands.

THANK YOU