**Exploratory Data Analysis for Real Estate Dataset**

**Purpose and Scope of The EDA**

**Purpose:** The purpose of the Exploratory Data Analysis (EDA) for the Real Estate dataset is to understand the factors that affect property prices in different cities.

**Scope:** The scope of the EDA is to analyze the following columns: Price, Bedrooms, Bathrooms, SqFt, City, State, Year\_Built, Type, and Garage.

Through visualization and statistical analysis, the EDA aims to identify any trends or patterns in property prices and determine the impact of various features on property prices. The analysis can help in making decisions regarding real estate investments, understanding market trends, and identifying key factors that influence property prices.

**Questions to be answered:**

1. What are the average property prices in different cities and states?
2. How does the number of bedrooms and bathrooms affect property prices?
3. Is there a correlation between property size (SqFt) and property price?
4. How does the year built influence property prices?
5. Does the type of property (House, Apartment, Townhouse) affect the price?
6. How does having a garage impact property prices?

**Data Cleaning and Preparation**

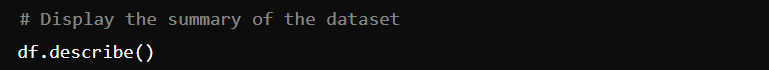
1. **Check for missing values:**

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1. **Handle missing values:** In this case, we do not have missing values
2. **Ensure correct data types:**A screen shot of a computer code

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3. Summary of the dataset:



**Visualization and Analysis**

**1. Price Distribution by City and Property Type**

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A chart with different colored rectangular shapes

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2. Heatmap of Property Prices Across Cities

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A chart of a heatmap

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3. Correlation Analysis with Enhanced Visualizations

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4. Time-Series Analysis (based on Year Built)

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A graph showing a number of prices

Description automatically generated with medium confidence

**Summaries and Insights**

**1. Price Distribution by City and Property Type:**

* Different cities have varied price distributions across property types. Some cities might have a higher concentration of more expensive properties.

**2. Heatmap of Property Prices Across Cities:**

* The heatmap allows quick comparison of average property prices across cities, helping to identify cities with relatively higher or lower prices.

**3. Correlation Analysis:**

* The correlation matrix provides a clear view of how different property features are related to each other and to the price, which is essential for understanding the drivers of property prices.

**4. Time-Series Analysis:**

* The time-series plot illustrates historical trends in property prices, which is useful for understanding market dynamics and potential future trends.