**1. What are the key factors that influence house prices the most?**

• **Objective**: Identifying the most important features (e.g., number of bedrooms, square footage, location, etc.) that have the highest correlation with house prices.

• **Analysis**: Using correlation analysis and possibly regression models to determine the strongest predictors of house prices.

**2. How does the location impact house prices?**

• **Objective**: Explore how house prices vary across different geographical areas (e.g., neighborhoods, cities, or zip codes).

• **Analysis**: Group by location and compare the average or median house prices. These can also be visualized on a map using hvplot to show the geographic distribution of house prices.

**3. What is the relationship between house size (square footage) and price?**

• **Objective**: Determine whether there is a linear or non-linear relationship between house size and price.

• **Analysis**: Create scatter plots and run regression analysis to understand the relationship between house size and price. Calculate price per square foot as well.

**4. How do features like the number of bedrooms and bathrooms affect house prices?**

• **Objective**: Investigate how house prices vary based on the number of bedrooms, bathrooms, or other key features.

• **Analysis**: Creation of boxplots or bar charts to show the distribution of prices for houses with different numbers of bedrooms and bathrooms. Average price for each category will also be calculated

**5. Are there any outliers in the dataset, and how do they affect the overall analysis of house prices?**

• **Objective**: Identify any outliers in the dataset (e.g., extremely high or low house prices) and explore their potential impact on the overall analysis.

• **Analysis**: Usage of boxplots to visualize outliers and investigate whether these data points are influencing key statistics like mean and median. Will be tested to see if outliers are tied to specific features in the data

Research Questions:

1. **How does the total area (square footage) of a house influence its price?**

2. **What is the relationship between the number of bedrooms and bathrooms and the house price?**

3. **Do houses located in downtown areas generally have higher prices compared to suburban areas?**

4. **How does the age of a house (YearBuilt) affect its market value, and does the condition of the house mediate this effect?**

5. **Is there a significant price difference between houses with garages versus those without?**

6. **What is the combined effect of house condition (Excellent, Good, Fair) and location on the house price?**

7. **How do the number of floors in a house correlate with its price?**

8. **Are there patterns of appreciation or depreciation in house prices for homes built in different decades (e.g., pre-1950 vs. post-1950)?**

9. **What factors most strongly predict house prices using a multivariate regression model (including Area, Bedrooms, Bathrooms, Floors, YearBuilt, Condition, and Garage)?**

10. **Does the presence of certain amenities (e.g., a garage) have a greater impact on house prices in suburban areas compared to downtown areas?**