

Insights from India's Real Estate Market

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Abstract

This data analysis explores the relationships between various factors affecting House prices in India, including living area, number of bedrooms, bathrooms, and house condition. A correlation heatmap and visualizations reveal key trends to inform real estate decisions.

Introduction

The real estate market is an essential component of the Indian economy, and understanding the factors that influence house prices is crucial for buyers, sellers, and policymakers. This report aims to analyze the dataset containing information about houses sold in India. By examining the relationships between various factors such as the number of bedrooms, bathrooms, house condition, and price, we can uncover trends and insights that are useful for decision-making in the real estate sector.

Data Description

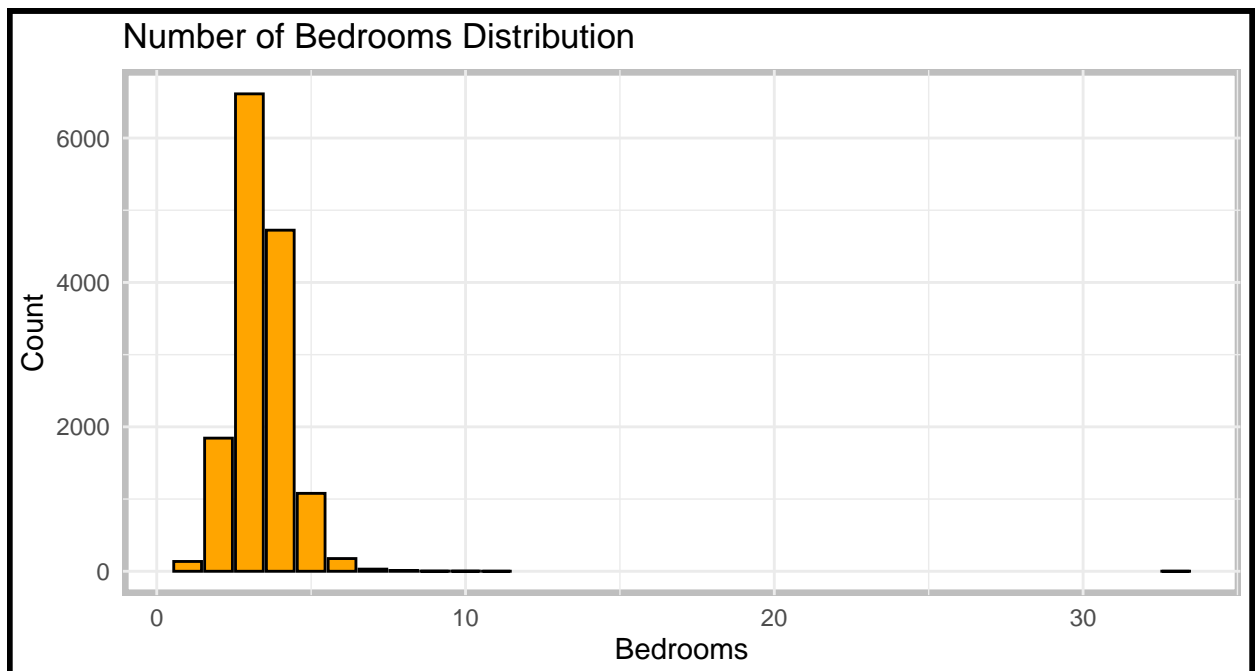
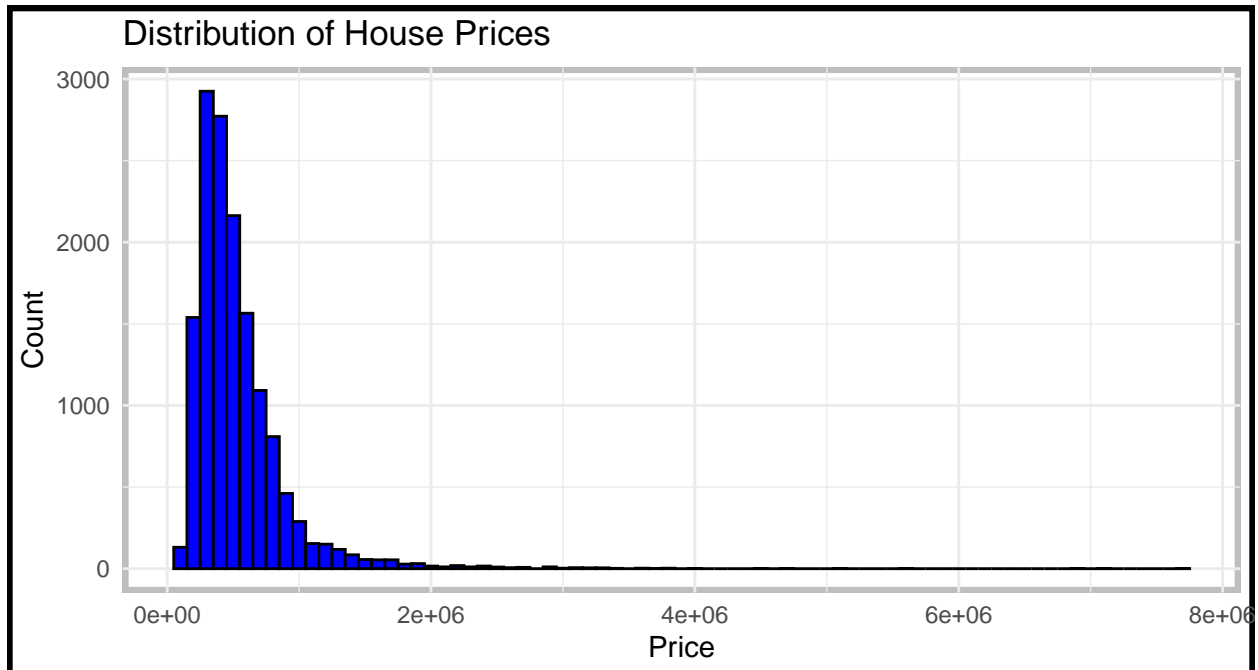
The dataset consists of 23 variables providing detailed information on each property sold. The important variables for our analysis are as follow:

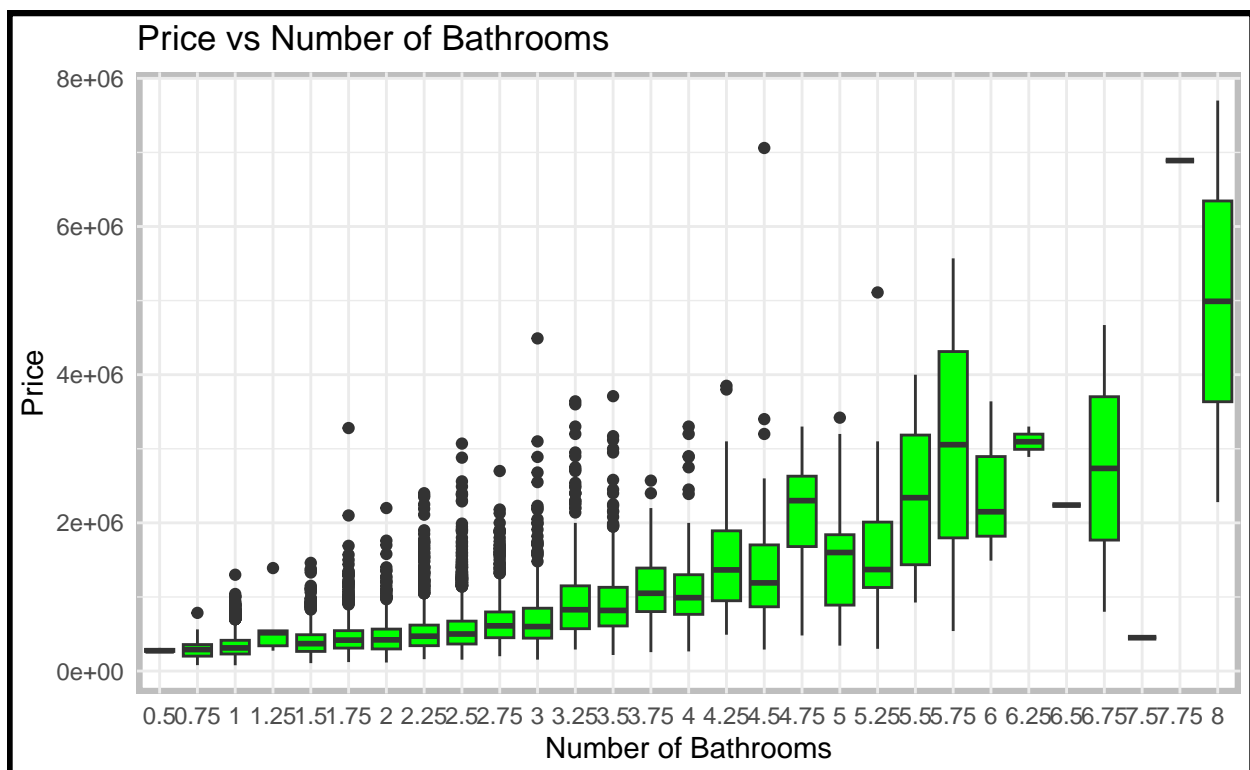
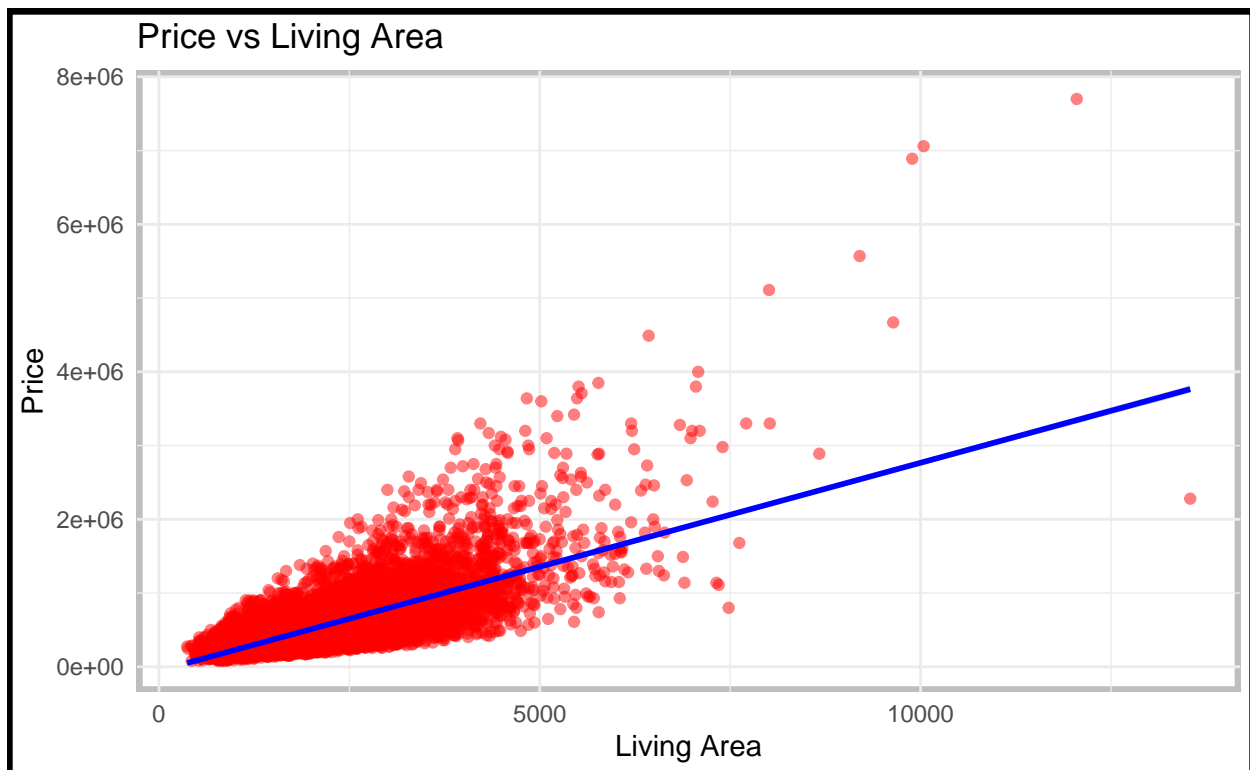
- **ID:** Unique identifier for each property.
- **Number of Bedrooms:** Number of bedrooms in the house.
- **Number of Bathrooms:** Number of bathrooms in the house.
- **Living Area:** Size of the living space (in square feet or meters).
- **Lot Area:** Total lot area of the property.
- **Number of Floors:** Number of floors in the house.
- **Condition of House:** Condition of the house on a scale of 1 to 5.
- **Built Year:** Year when the house was built.
- **Renovation Year:** Year when the house was last renovated.
- **Latitude and Longitude:** Geographic coordinates of the property.
- **Living Area Renov:** Living area after renovation.
- **Distance from Airport:** Distance of the house from the nearest airport (in kilometers).
- **Price:** Sale price of the house.

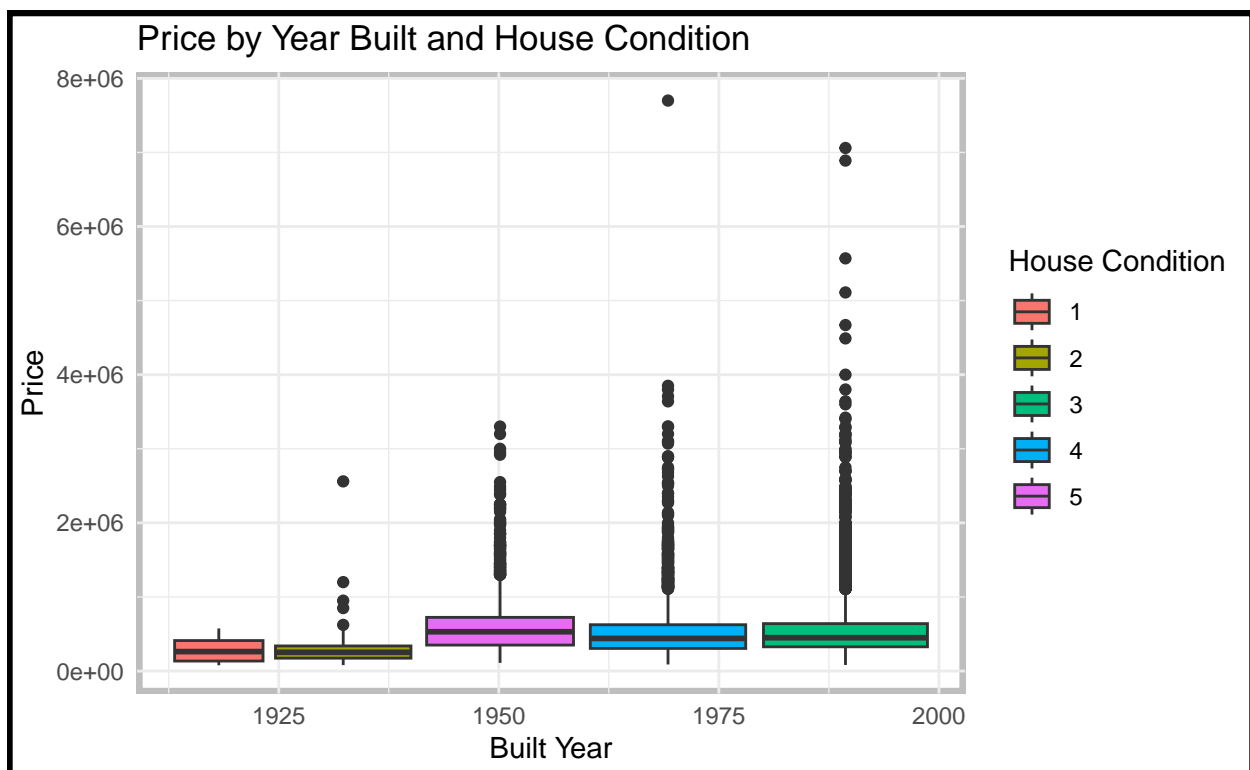
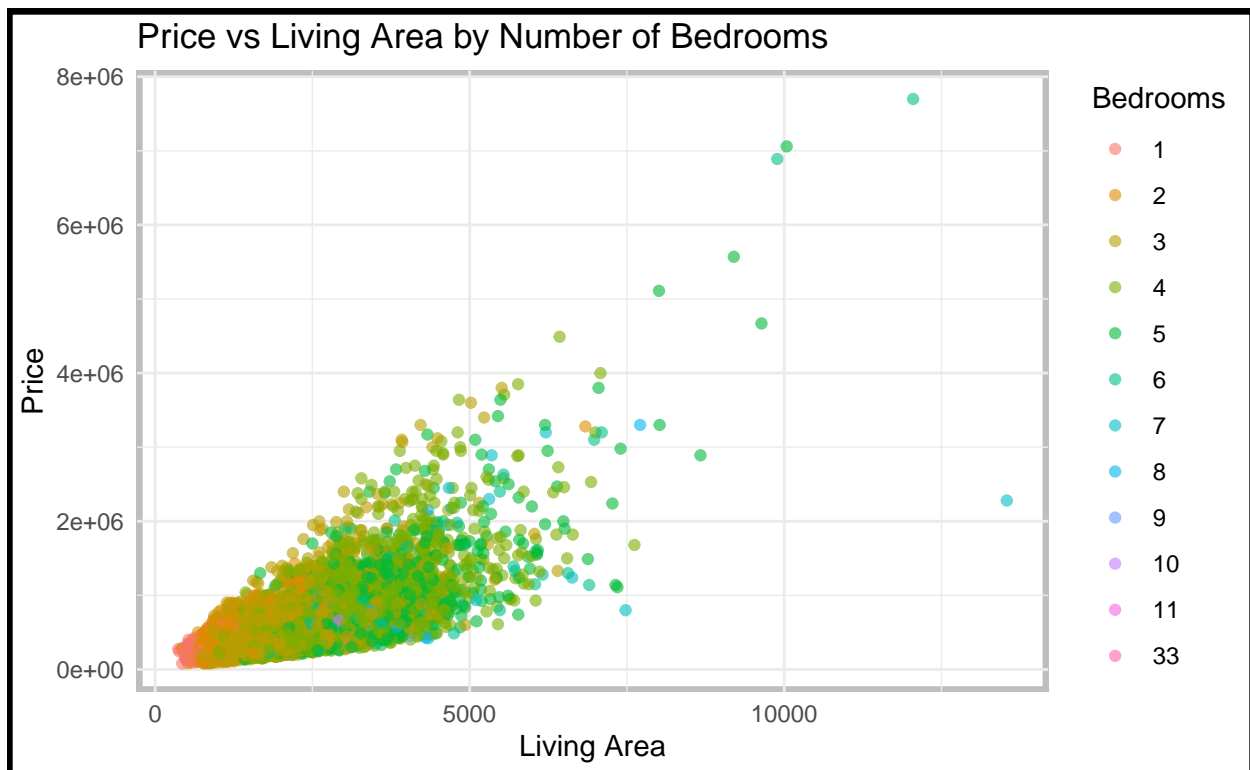
Exploratory Data Analysis

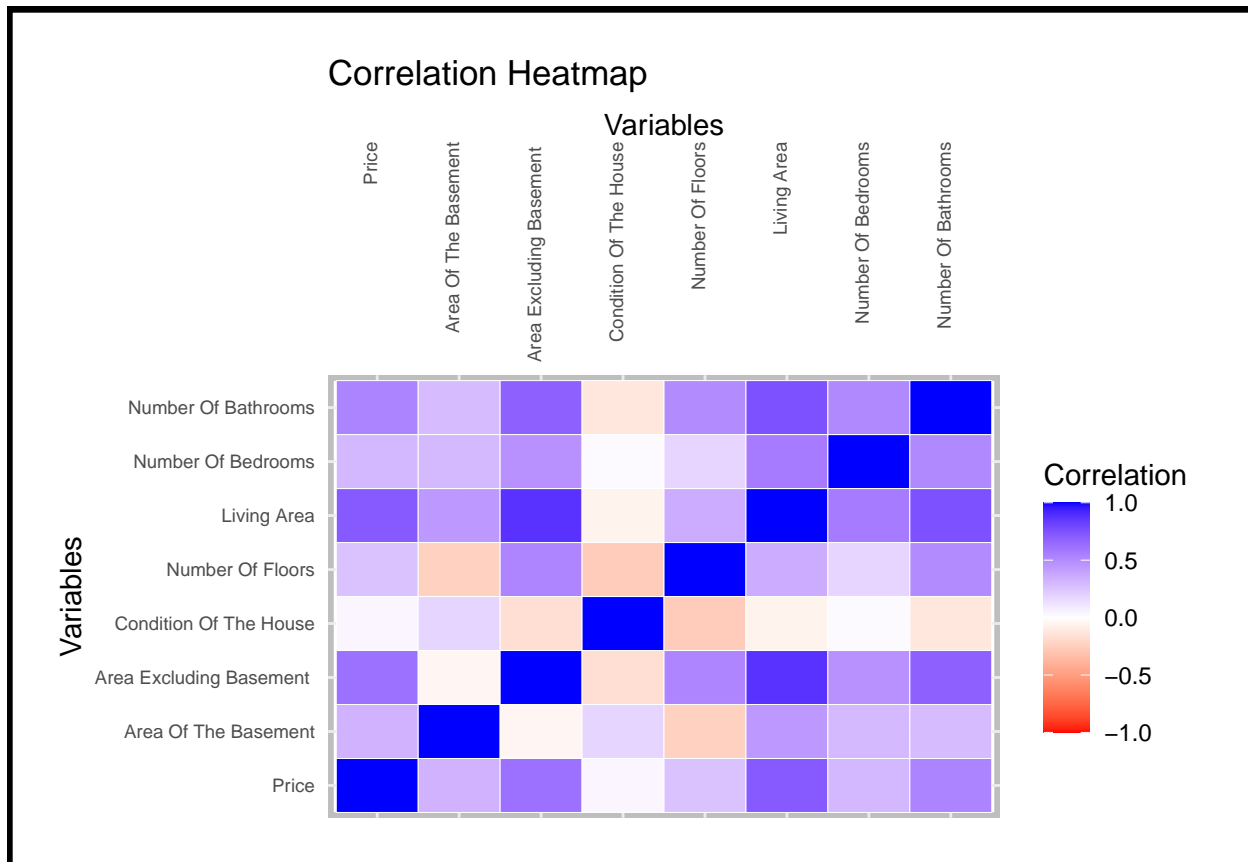
Here, we will explore the data using univariate, bivariate, and multivariate analysis to identify trends and patterns.

1. Distribution of House Prices









Result:

- **Living Area and Price:** There is a strong positive correlation between the size of the living area and the price of a house, indicating that larger homes tend to be priced higher.
- **Number of Bedrooms and Bathrooms:** Both the number of bedrooms and bathrooms are positively correlated with house prices, but the relationship with bathrooms is more pronounced, suggesting that home buyers place more value on additional bathrooms.
- **House Condition:** The condition of the house has a noticeable impact on its price, with homes in better condition fetching higher prices.
- **Basement Area and Excluding Basement Area:** The areas with and without basements also showed moderate correlations with house price, indicating that the presence of a basement can influence the overall value of a property.
- **Multivariate Interactions:** The interaction between multiple factors, such as house size and number of bedrooms, provides a more comprehensive understanding of what drives house prices.

Conclusion:

House prices in India are driven by a mix of property attributes and conditions. This analysis offers insights to help buyers, agents, and policymakers make informed decisions. Future research can include neighborhood or economic factors for deeper analysis.