



GROUP 17

HOUSE SALES ANALYSES IN KING COUNTY





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INTRODUCTION

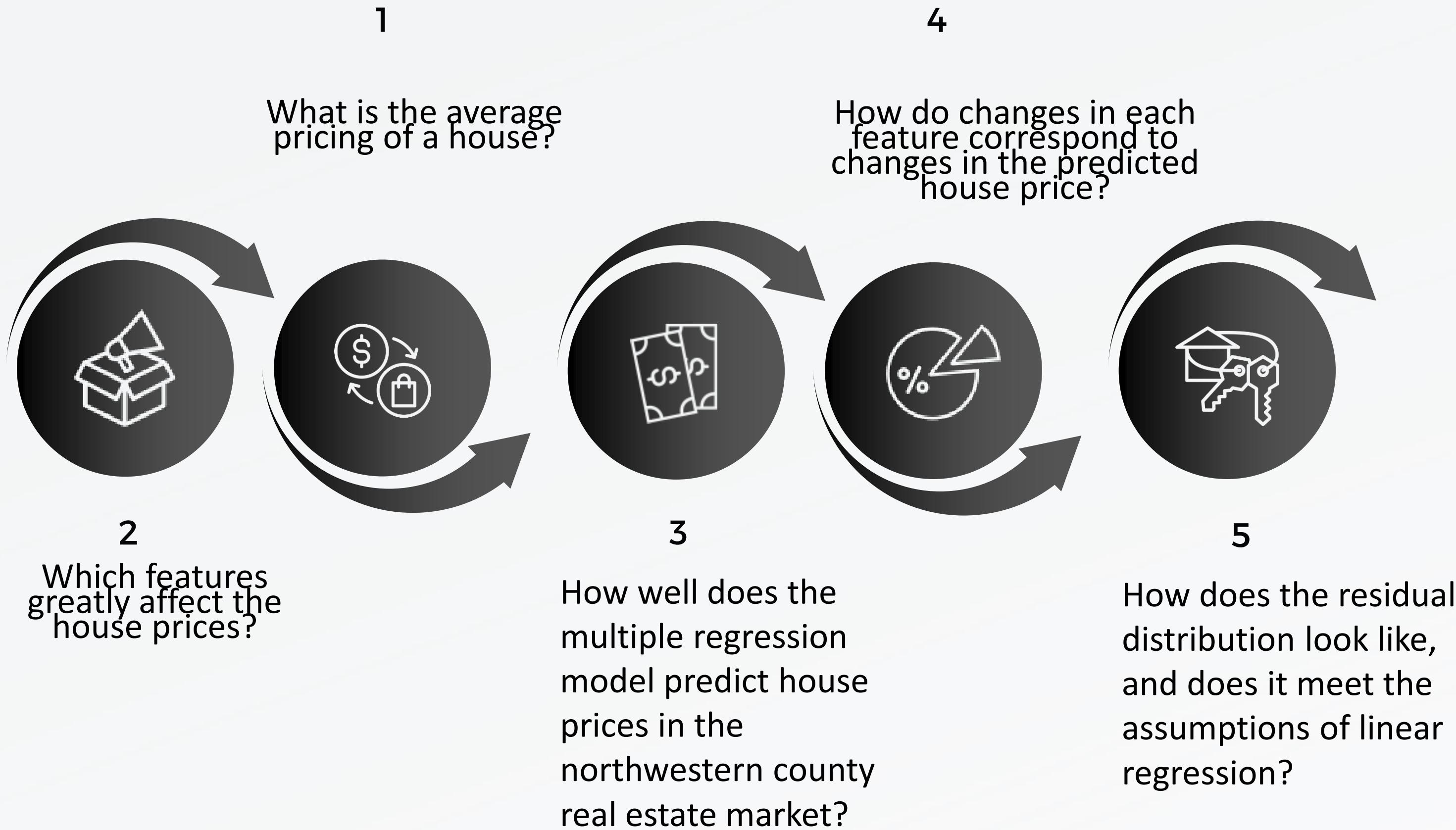


BuildKesho Consultancy Ltd aims to offer personalized advice to homebuyers, helping them understand how different features of a property contribute to its market value.



BUSINESS PROBLEM

Our Business Model will answer the following questions:



METHODS



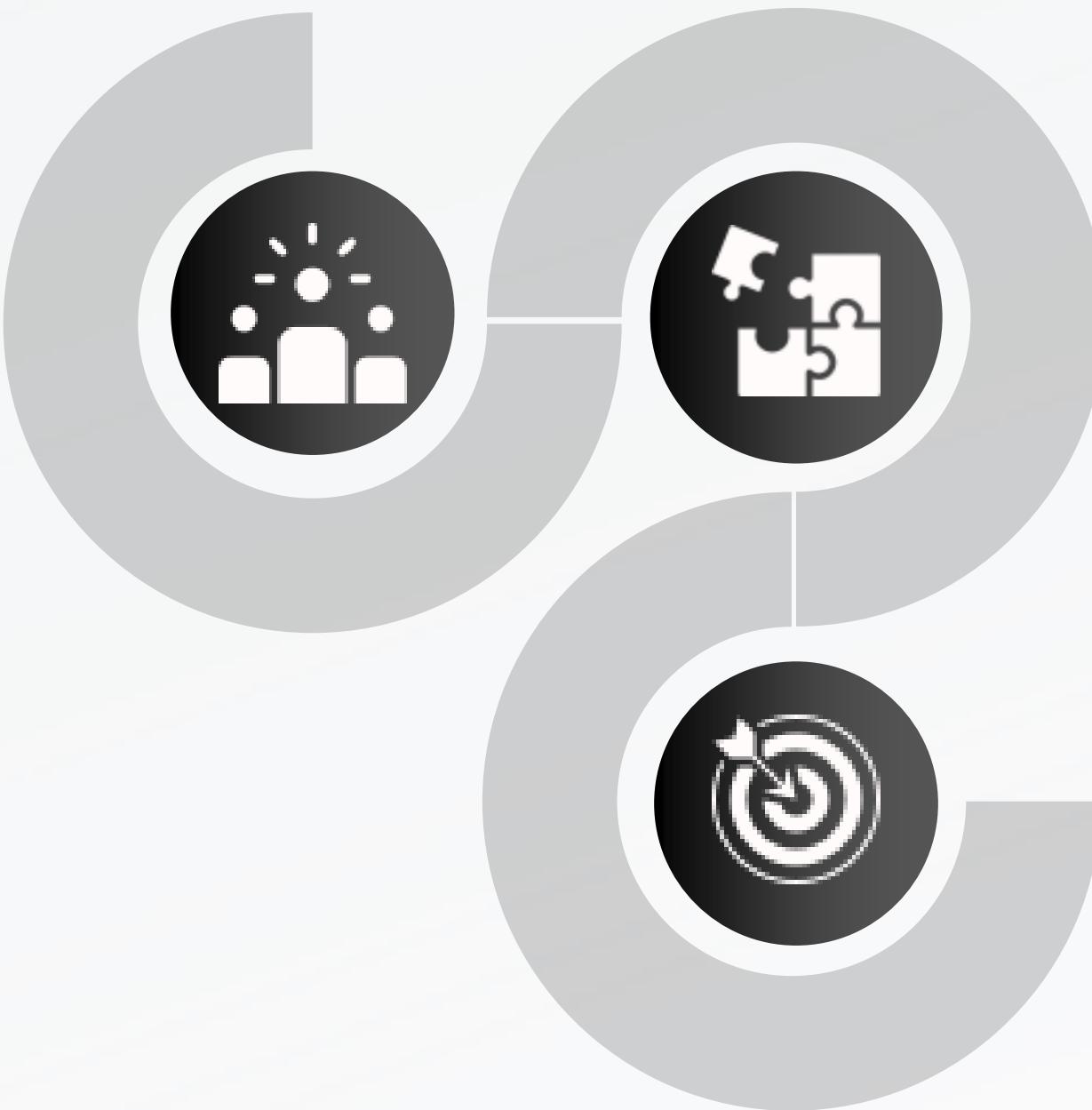
The project employs multiple linear regression modeling to gain valuable insights into house sales within Northwestern County.

The utilization of advanced statistical techniques will allow us to explore and understand the multifaceted relationships between various independent variables and house prices.



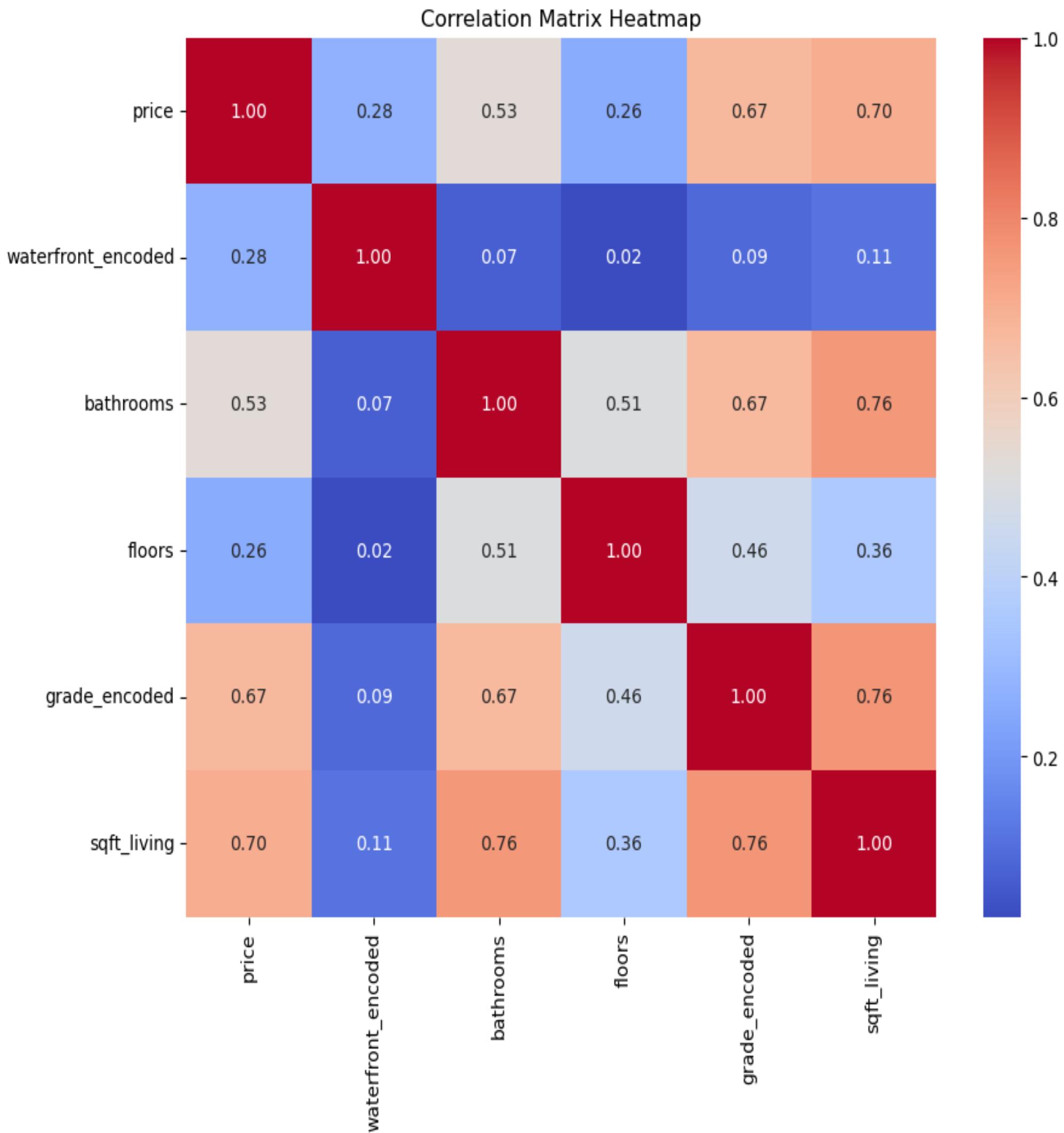
FINDINGS

- 01** The estimated value of a house is 6.7 million while holding all other variables constant.
- 02** The R-squared explains approximately 65% of variance in the dependent variable (price) that is explained by the independent variables. The R-squared suggests that the model is able to capture a significant portion of the variability in home prices.
- 03** Based on coefficient of the coefficient model an increase of one bathroom will increase the estimated value by 50,430 USD while an increase of one bedroom will decrease the estimated value by 42,820 USD.
- 04** The p-values are low all below 0.05 and this shows the model is statistically significant



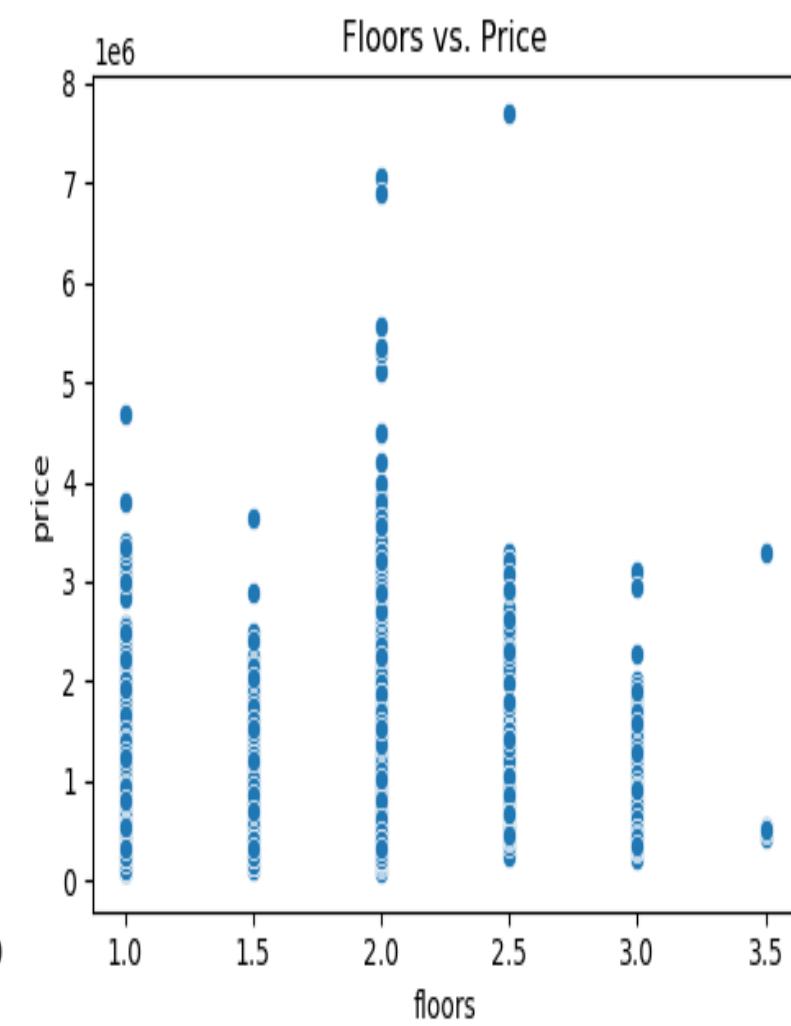
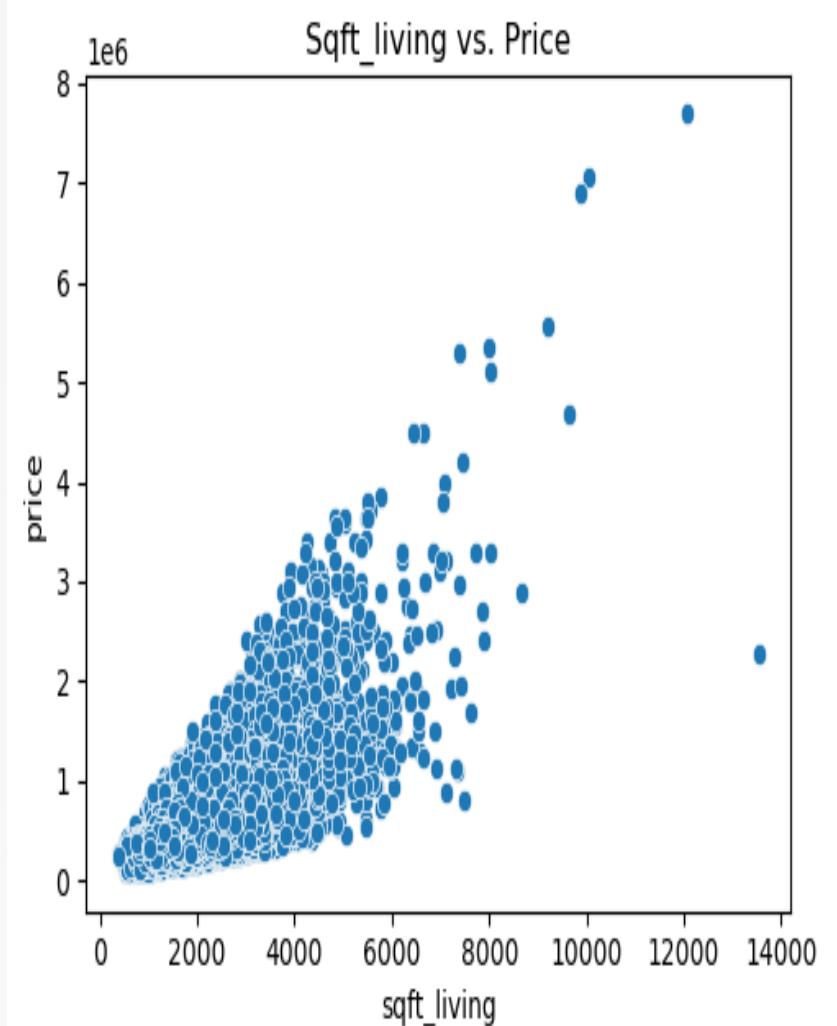
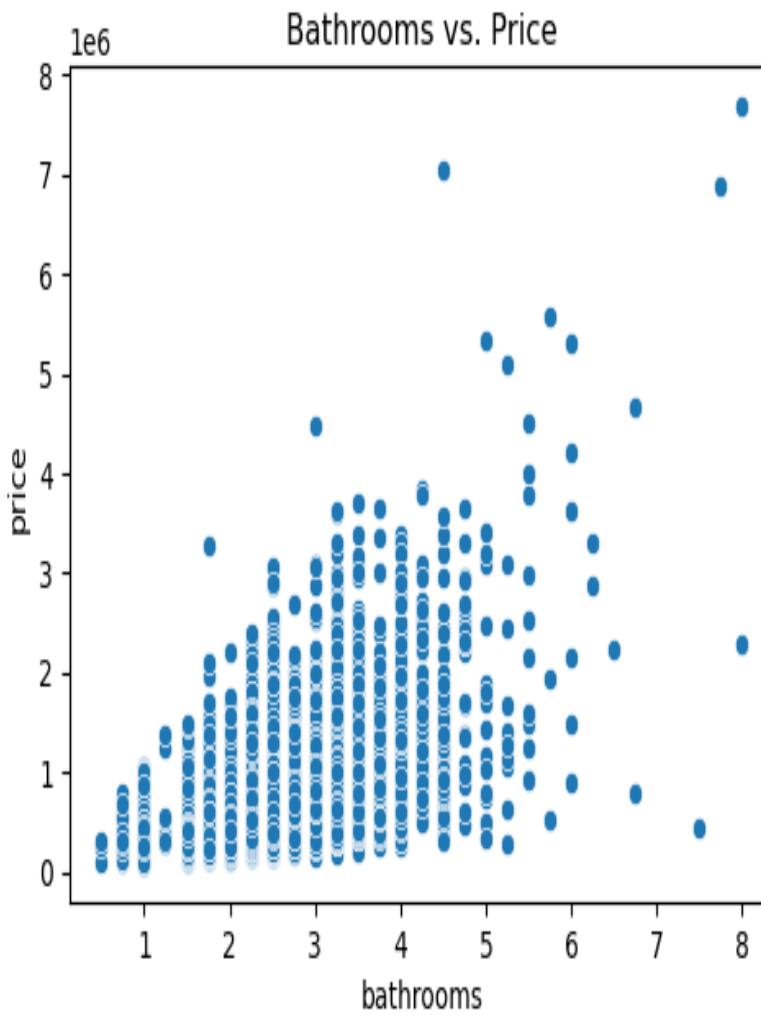
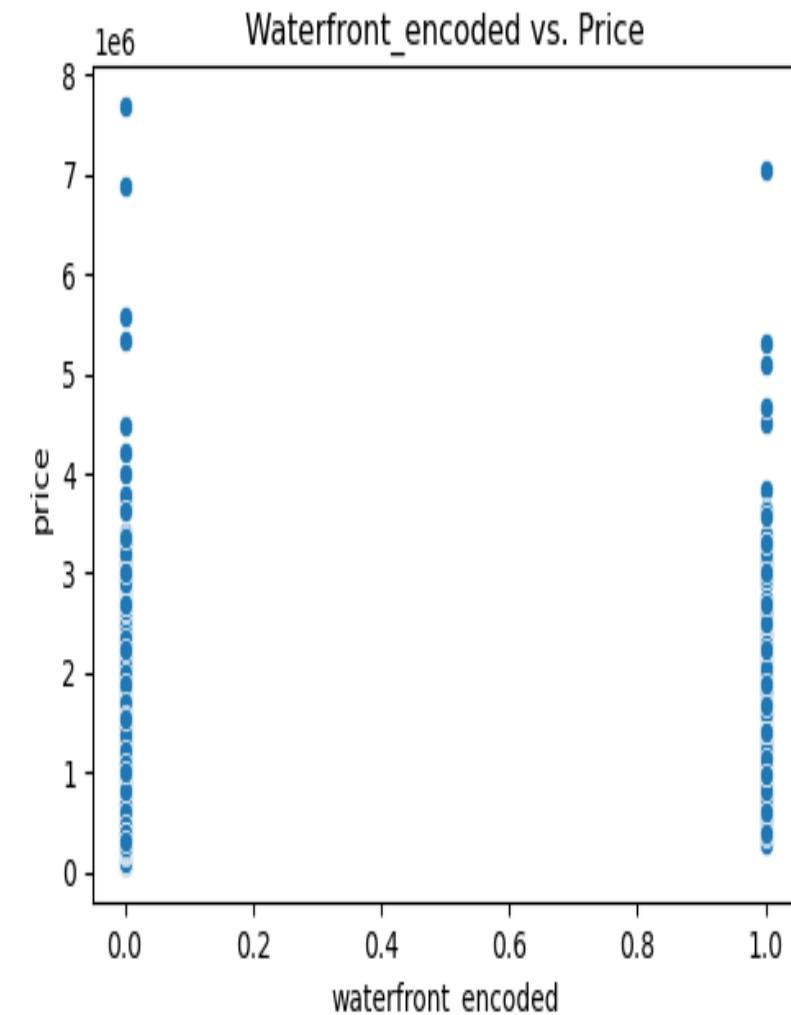
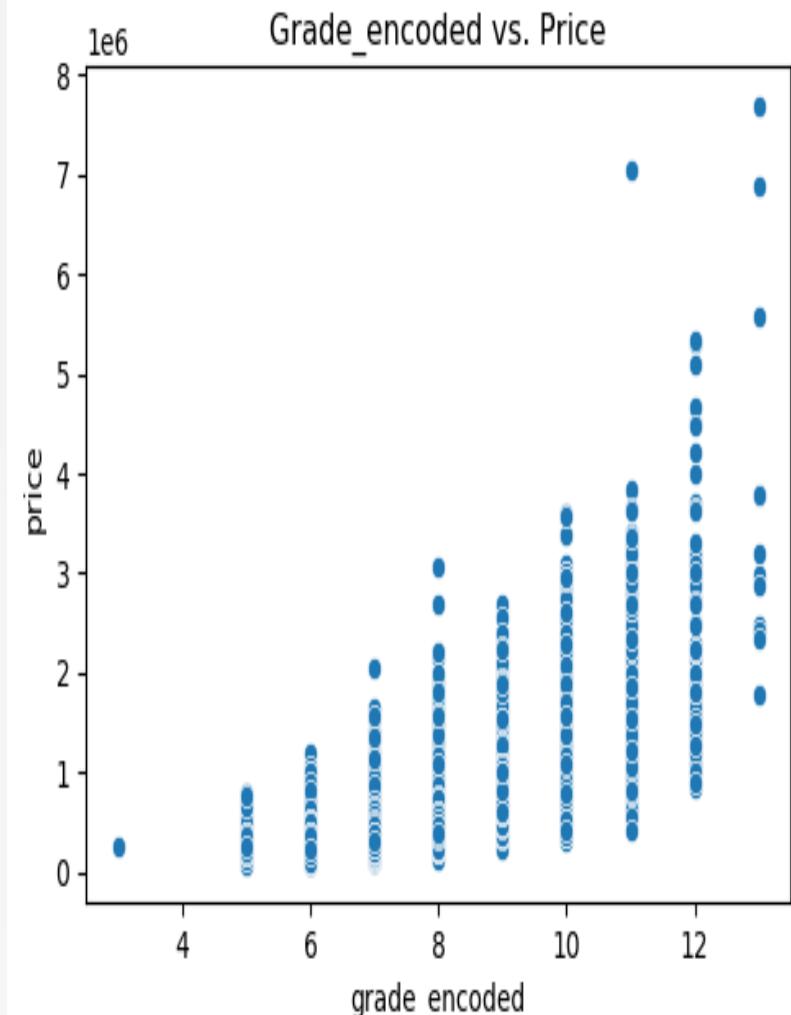
CORRELATION MATRIX FINDINGS

- ❑ The heatmap shows relationship between different variables.
- ❑ The squareft_living of a house has the highest relationship with price. The larger the living room the higher the price
- ❑ The bathrooms has the second highest relationship with price, meaning the higher the number of bathrooms the higher the price



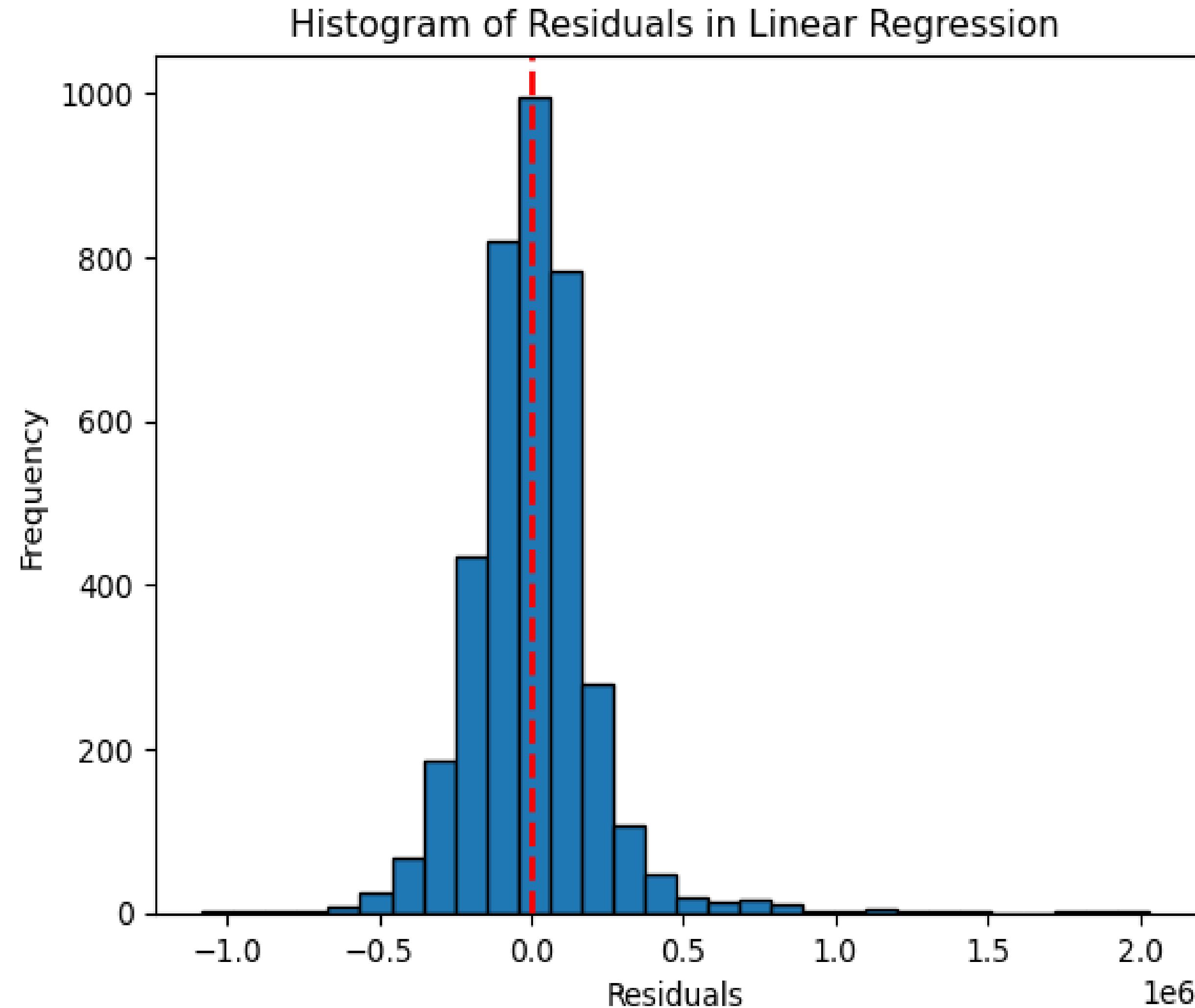
SCATTER PLOT FINDINGS

- Price against top five independent variables with a positive coefficient



RESIDUE PLOT FINDINGS

- The residue plot is normally distributed thus the model prediction is unbiased comment for the residue plot



RECOMMENDATIONS

01

Grade Encoded
The higher a house is graded the higher its price. An upgrade to the next grade will increase the estimated value by 13,010 USD.

02

Waterfront Encoded
A house with a waterfront increases the estimated value of the house by 75,150 USD.

03

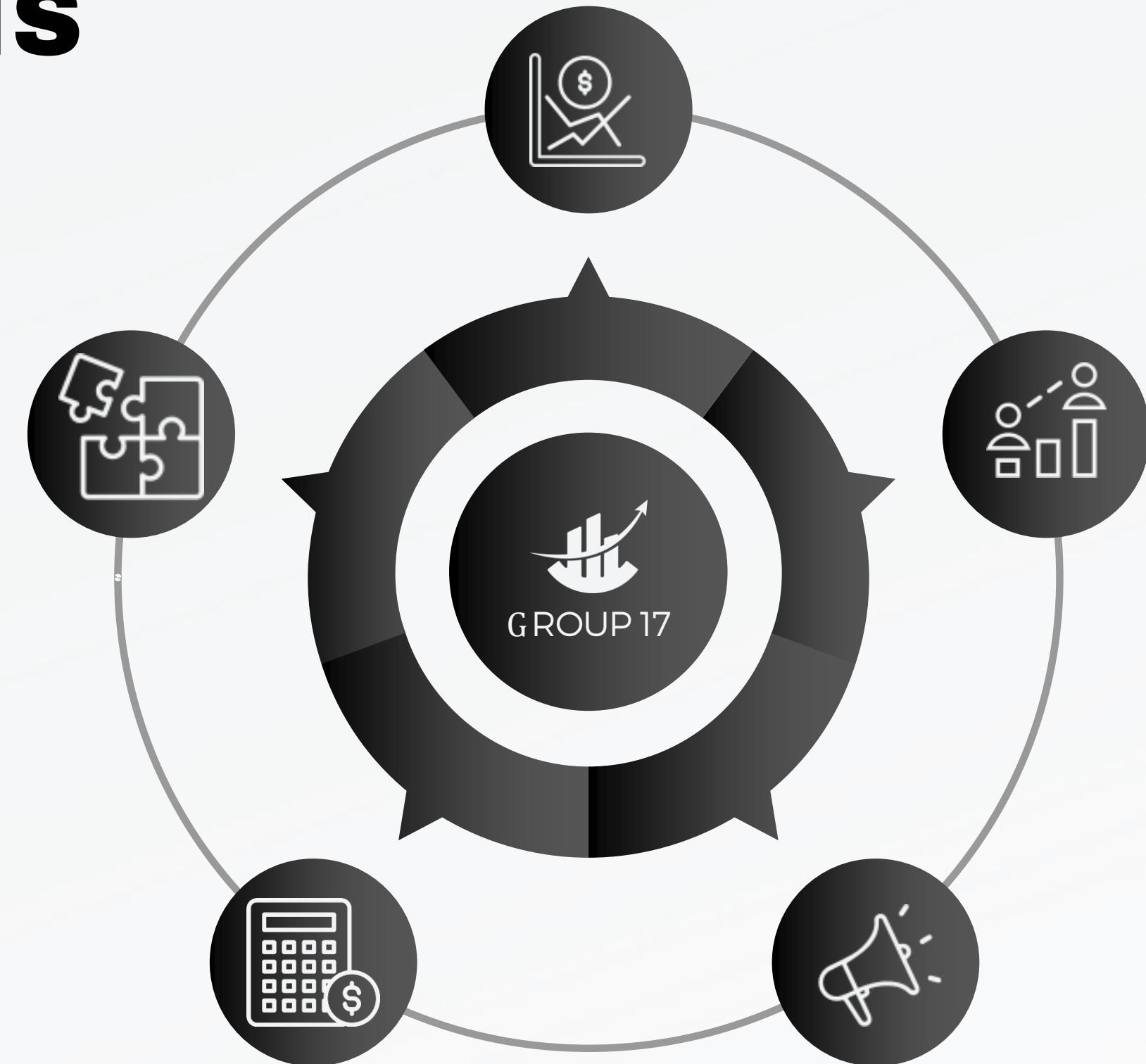
Bathrooms
An increase of one bathroom will increase the estimated value by 50,430 USD

04

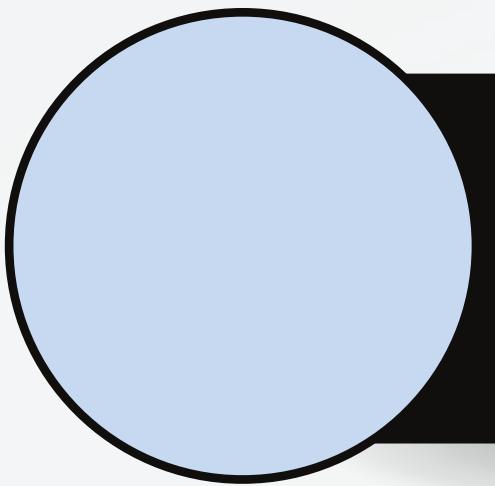
Sqft Living
An increase in the sqft_living of a home will increase the estimated value by 180 USD per sqft

05

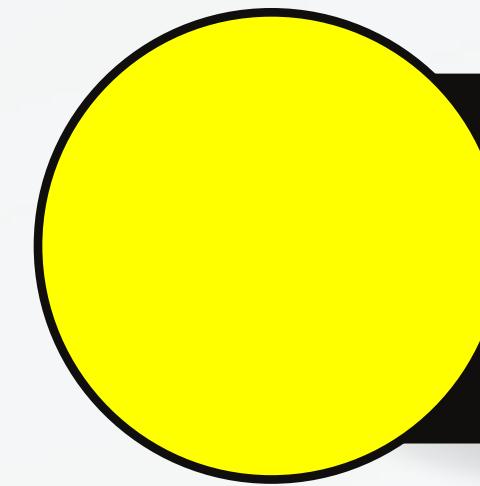
Floors
An increase in one floor of a house subsequently increases the estimated value by 21,650 USD



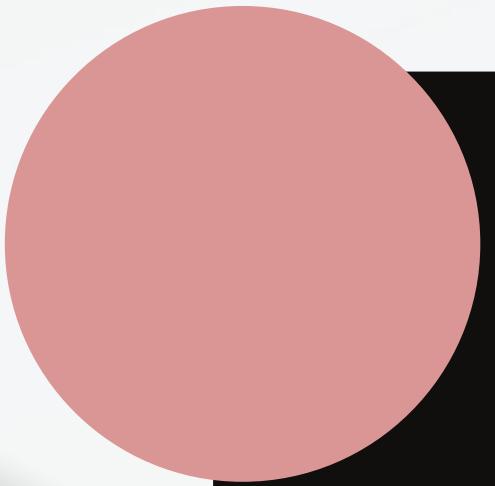
CONCLUSION:



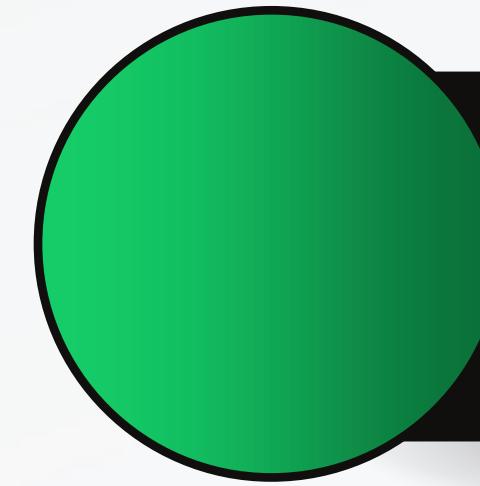
Through careful examination of the dataset, model development, and interpretation of results, we can identify key positive and negative relationships between predictor variables and house sale prices. This enables stakeholders to grasp the nuanced dynamics at play within the real estate market.



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