

# **Hypotheses Presented for EDA**

**By Paul Schmelzer**

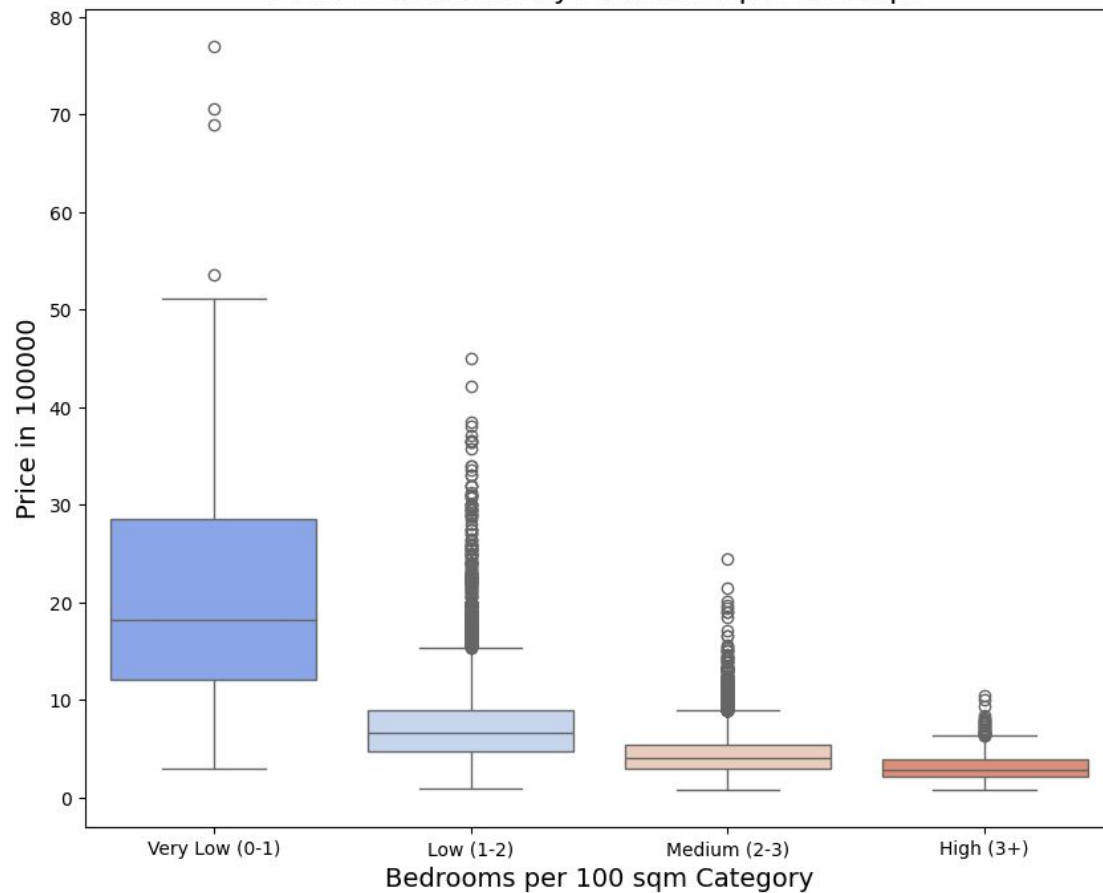
13.09.2024

Hypotheses:

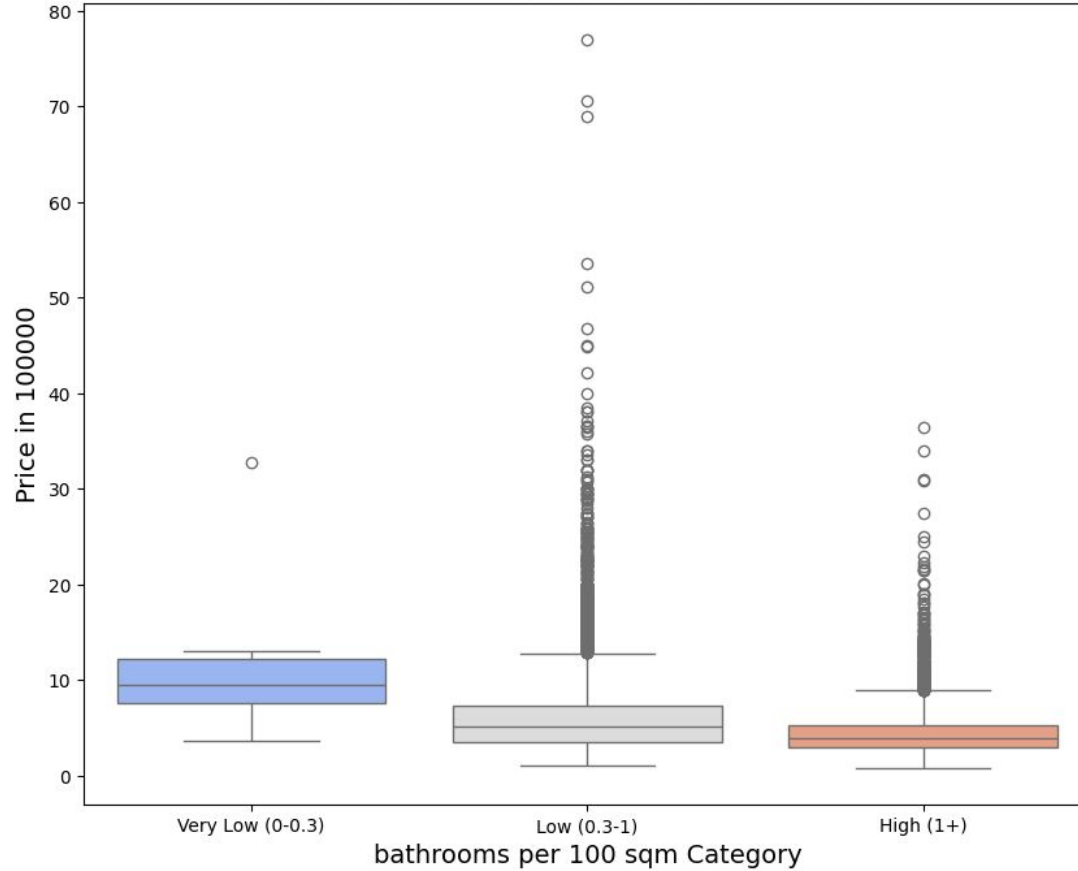
## Hypothesis 1:

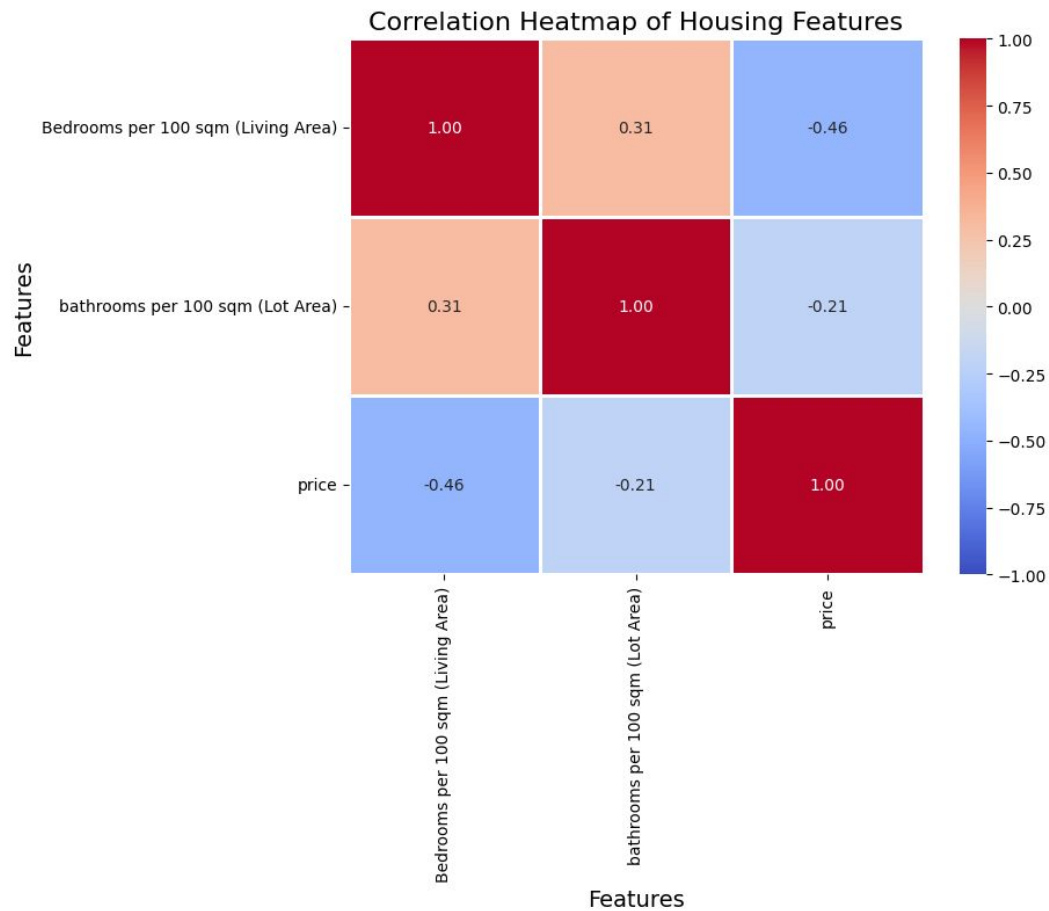
The more bedrooms per entity (square meter) of living area, the lower the price of the house

Price Distribution by Bedrooms per 100 sqm



Price Distribution by bathrooms per 100 sqm





Hypotheses:

## Hypothesis 1:

About 50% in house prices might be associated with the number of bedrooms in the house

About 20% in house prices might be associated with the number of bathrooms in the house

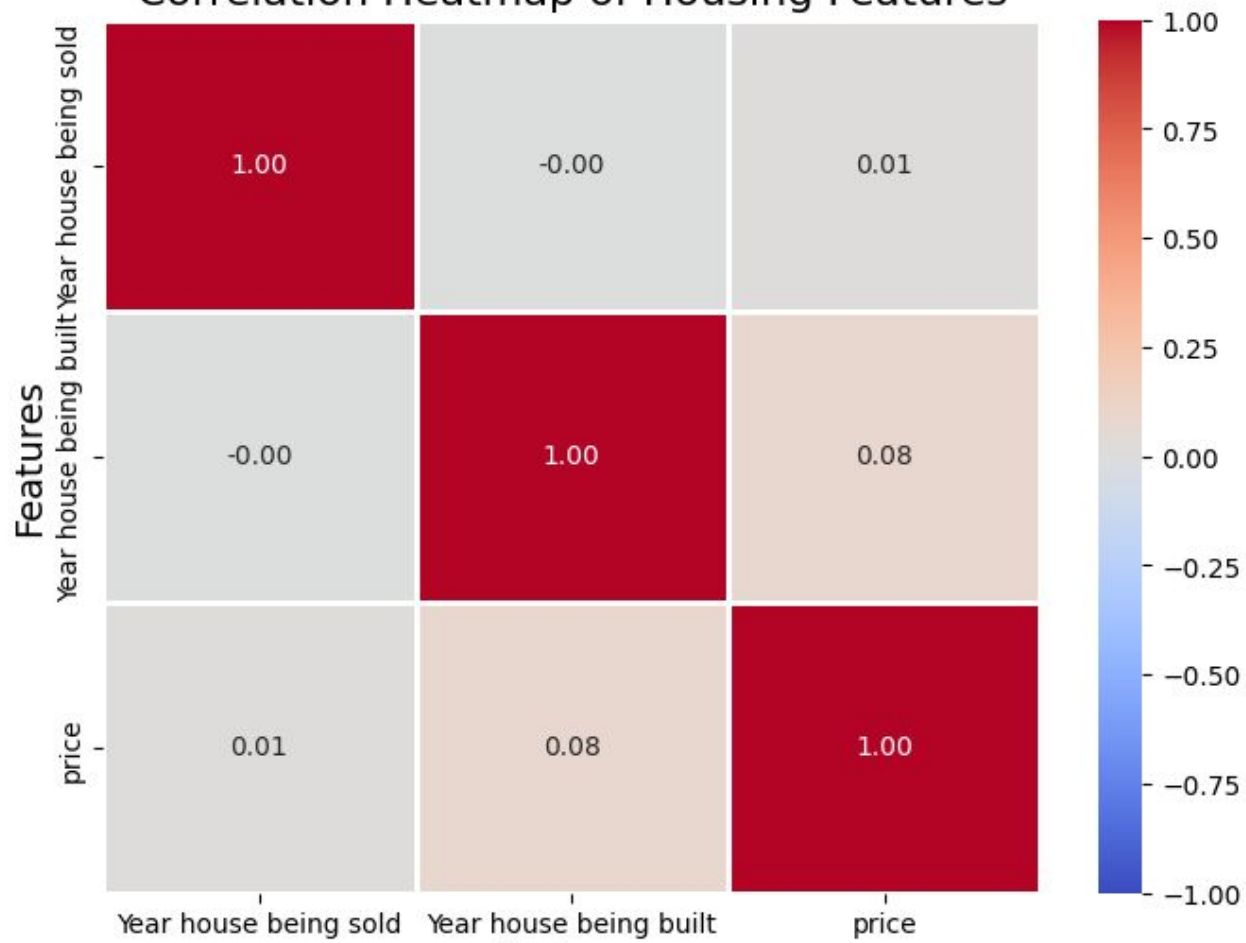
They are not cumulative since they are associated by 30%

Hypotheses:

## Hypothesis 2:

The year the building was constructed has an influence on the selling price.

# Correlation Heatmap of Housing Features





Hypotheses:

Hypothesis 2:

Are these results are driven by renovation?

Testing only for houses without renovation

# Correlation Heatmap of Housing Features



Hypotheses:

## Hypothesis 2:

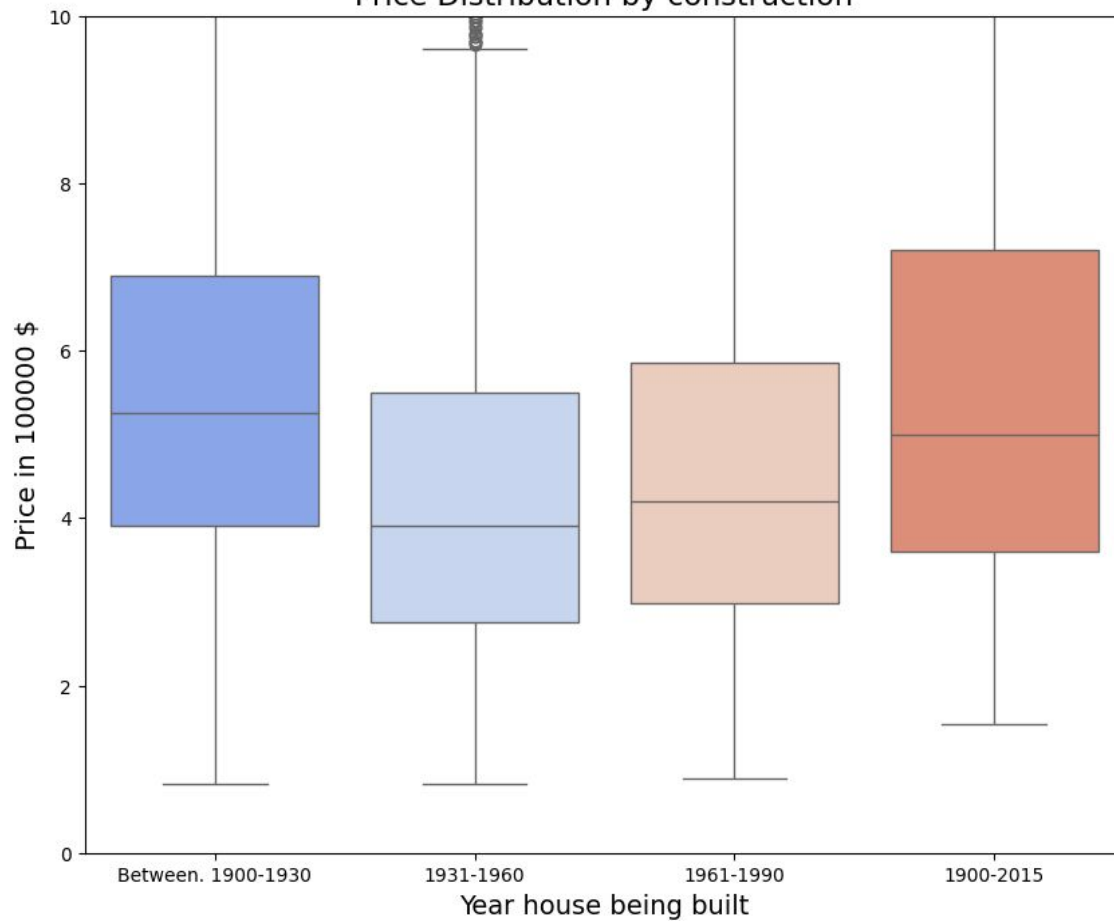
It might not be the age of the house, but rather the style in which it was built

We want to examine different decades, each reflecting distinct architectural styles

Focusing on the periods (1900 the oldest and 2015 the youngest house):

1900-1930, 1931-1960, 1961-1990, and 1990-2015.

Price Distribution by construction



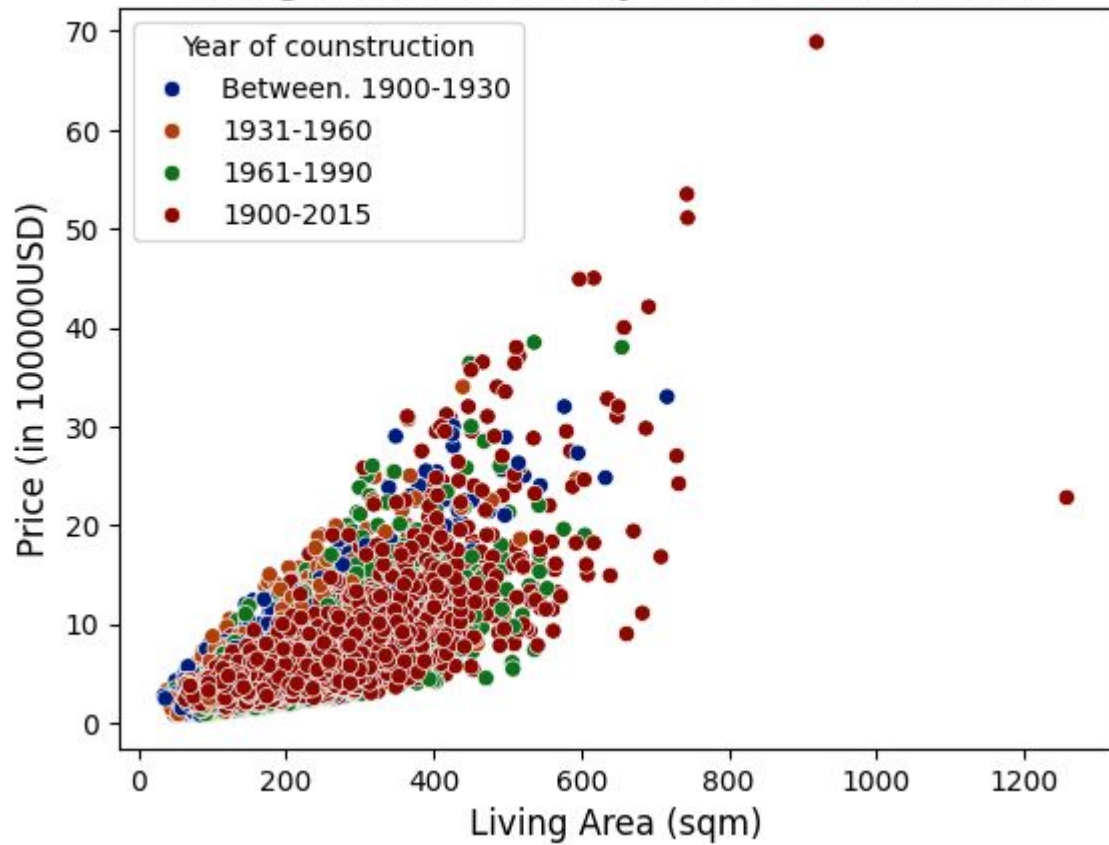
Hypotheses:

## Hypothesis 2:

The decade of house construction matters

We also should take in consideration the size of living area

Living Area vs. Price by Year of Construction



Hypotheses:

## Hypothesis 2:

Adding predictions to the graph would enhance the analysis

Jacob Phillips will need to wait for a response as the course in Data Scientist progresses.

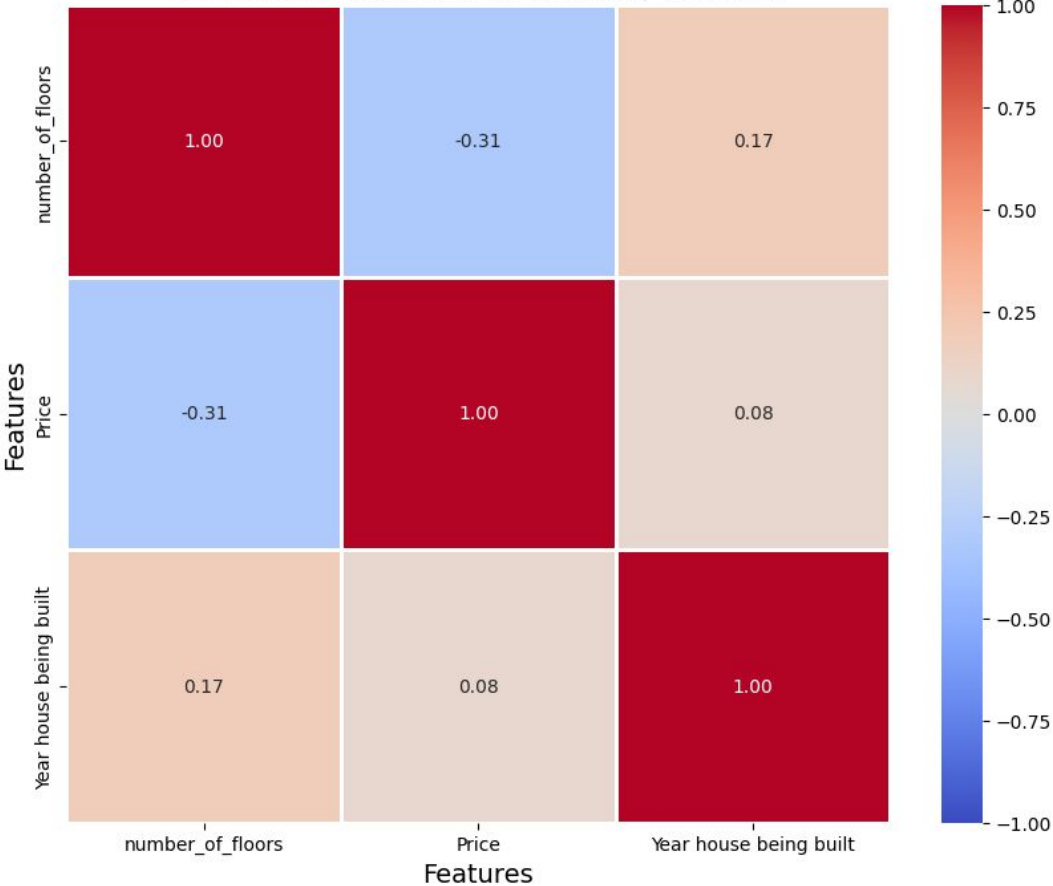
Hypotheses:

Hypothesis 3:

**The number of floors should have a negative impact on the price of the house: the more floors relative to the living area, the lower the selling price should be**



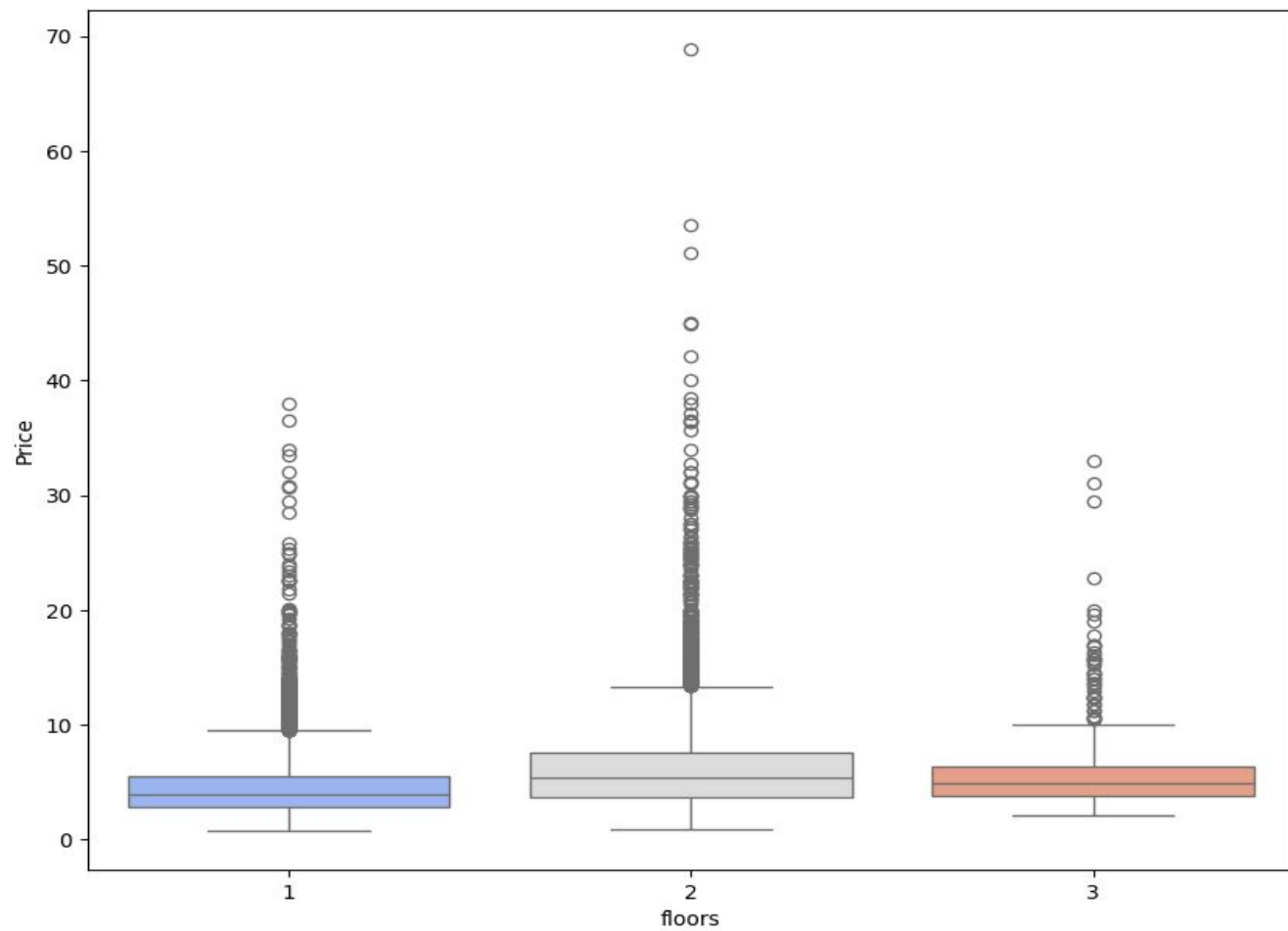
Correlation Heatmap of Housing Features



Hypotheses:

Hypothesis 3:

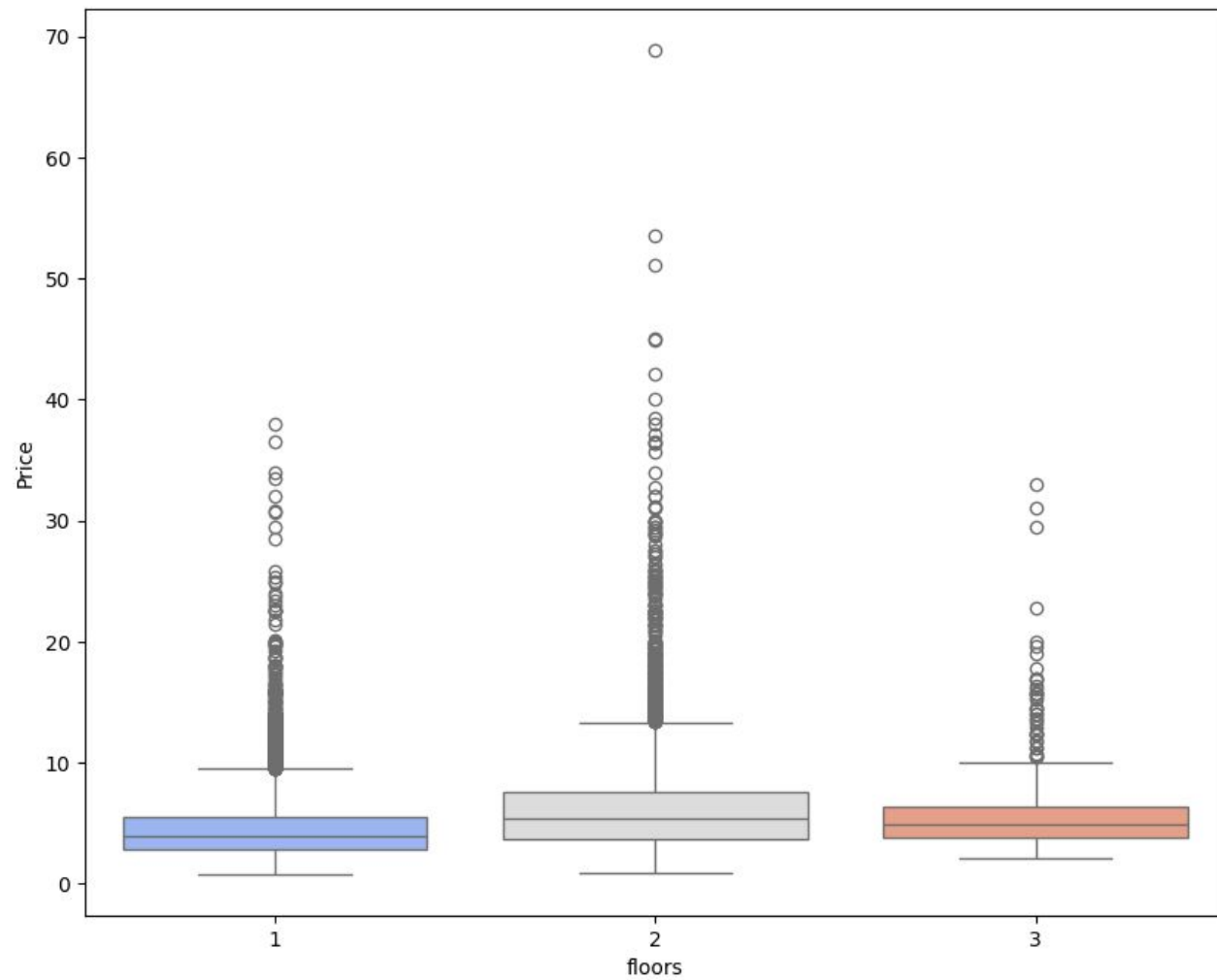
About 30% of house prices might be associated with the variability in the number of floors

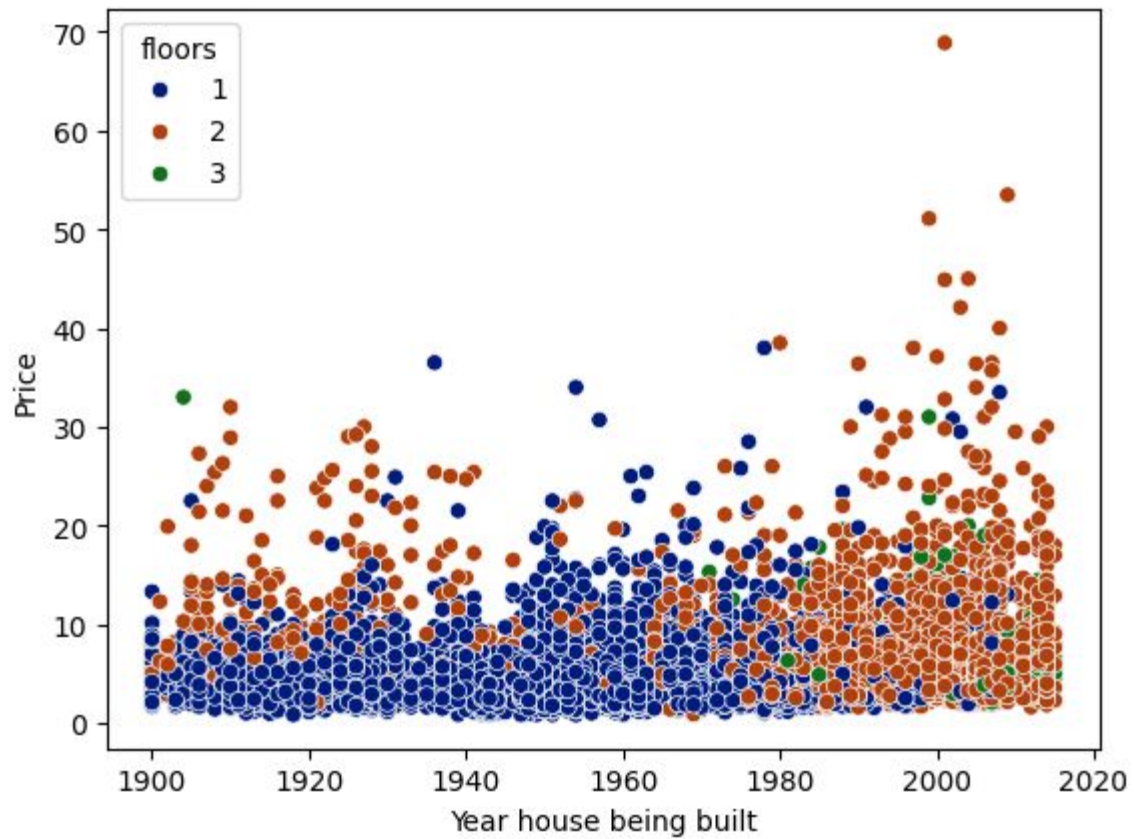


Hypotheses:

Hypothesis 3:

About 30% of house prices might be associated with the variability in the number of floors





# Some recommendations

Jacob Phillips   Buyer   Unlimited Budget, 4+ bathrooms or smaller house  
nearby, big lot (tennis court & pool), golf, historic, no waterfront

## Recommendations:

### Recommendation 1:

Since Jacob prefers a house with 4 bathrooms he is lucky guy since it reduced price by about 400.000 Dollars

And if he would buy a house with several bedrooms it might also reduce the price



Recommendations:

## Recommendation 2:

He should search for a bungalow since it is also cheaper than having a house with several floors

Recommendations:

### Recommendation 3:

The age of the house has an U Shape form.