KC_HOUSE PREDICTION

Making predictions

Objectives

Help home owners to:

- Estimate the price of houses depending on if they were renovated or not.
- Estimate by how much the price has changed.
- Interpret the correlation between price and other factors.

Tools used

pandas

numpy

matplotlib

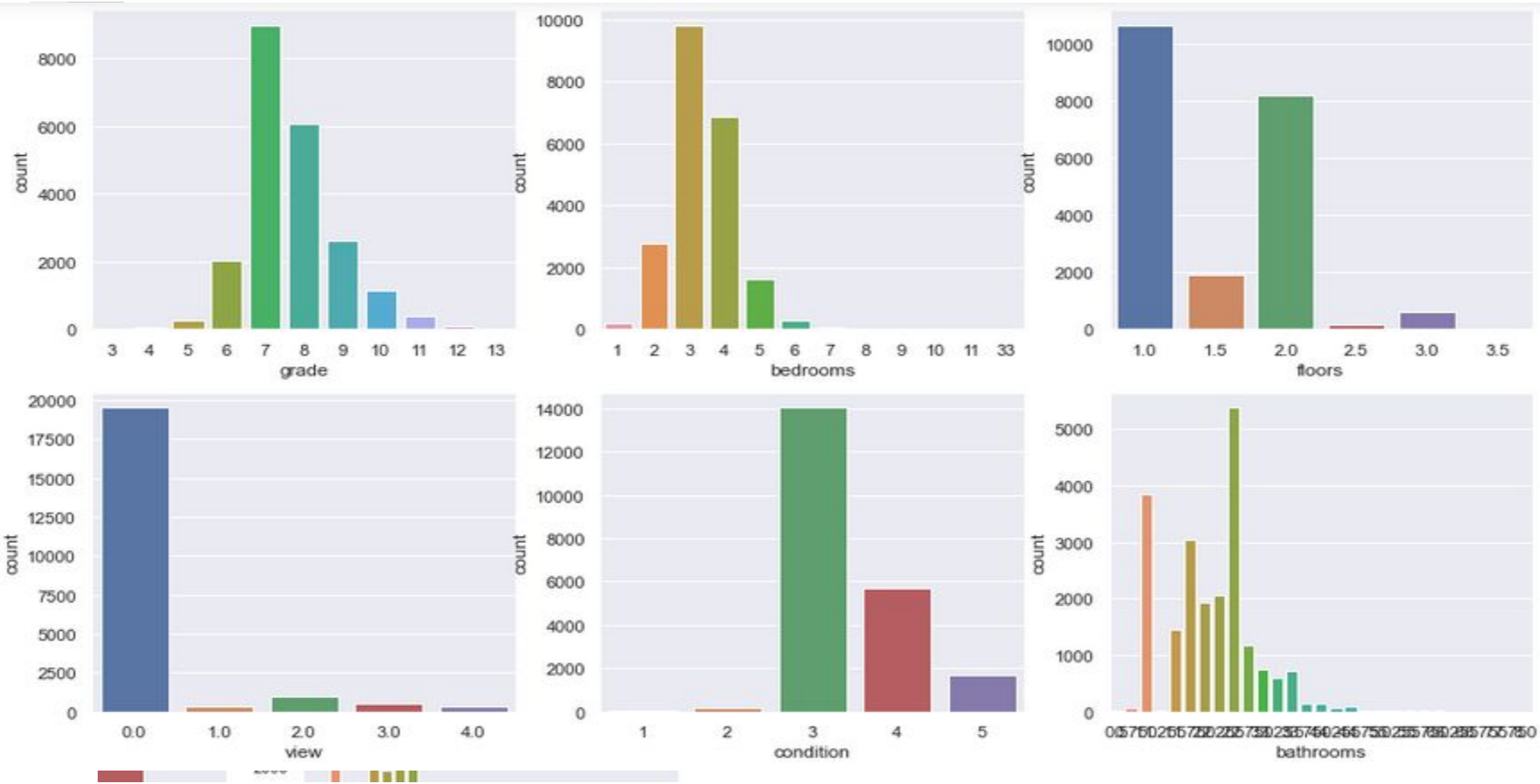
scipy

seaborn

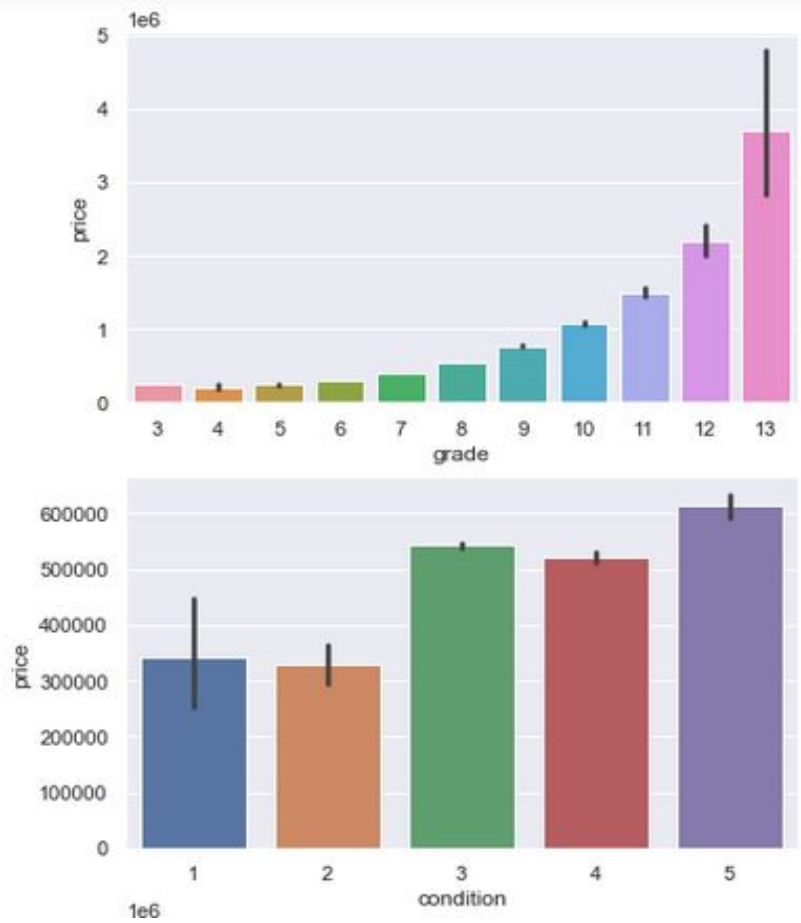
Business problem

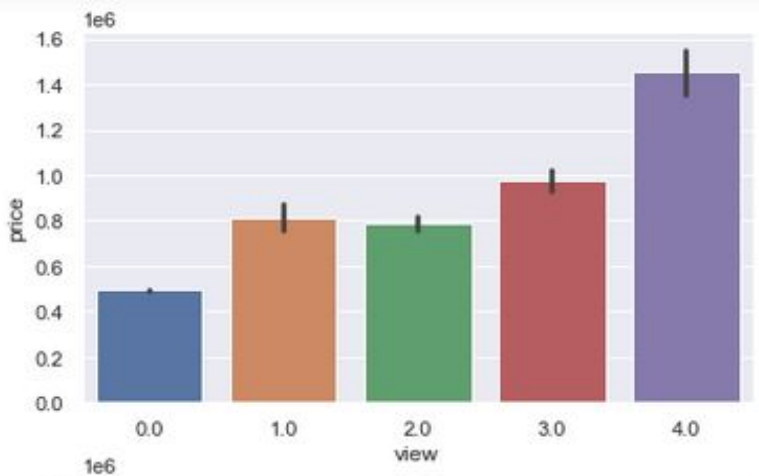
This is a project for a real estate agency that helps homeowners buy and/or sell homes. The business problem is focusing on how this stakeholder is to provide advice to homeowners about how home renovations they can increase house value.

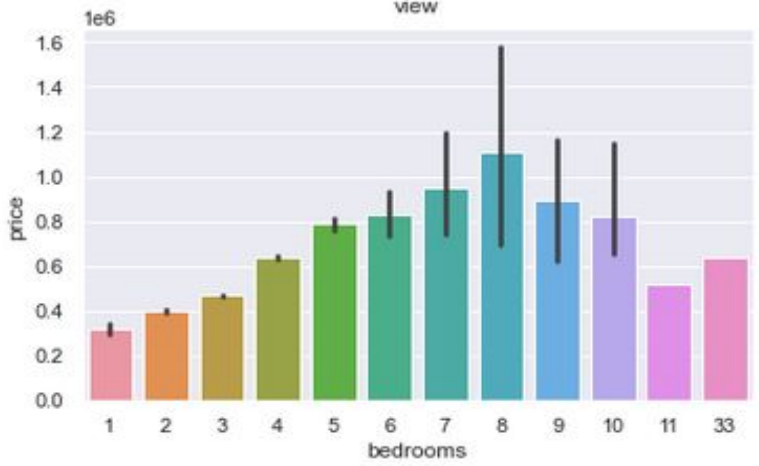
Univariate analysis

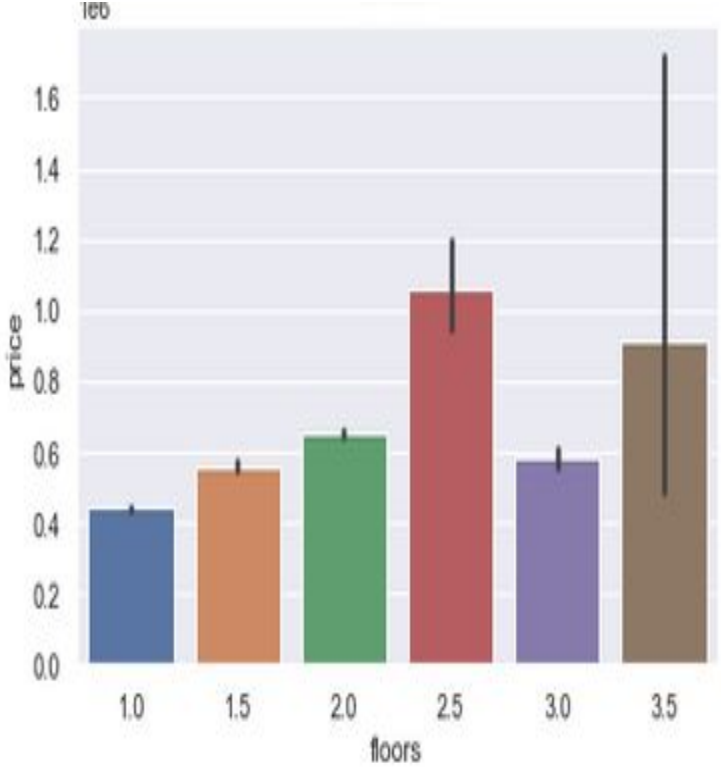


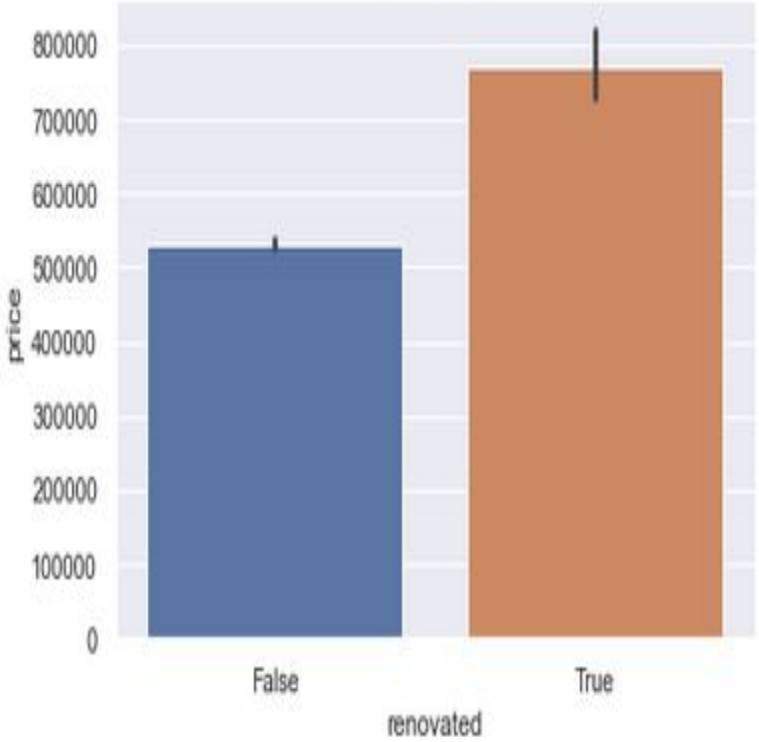
How different aspects affect price



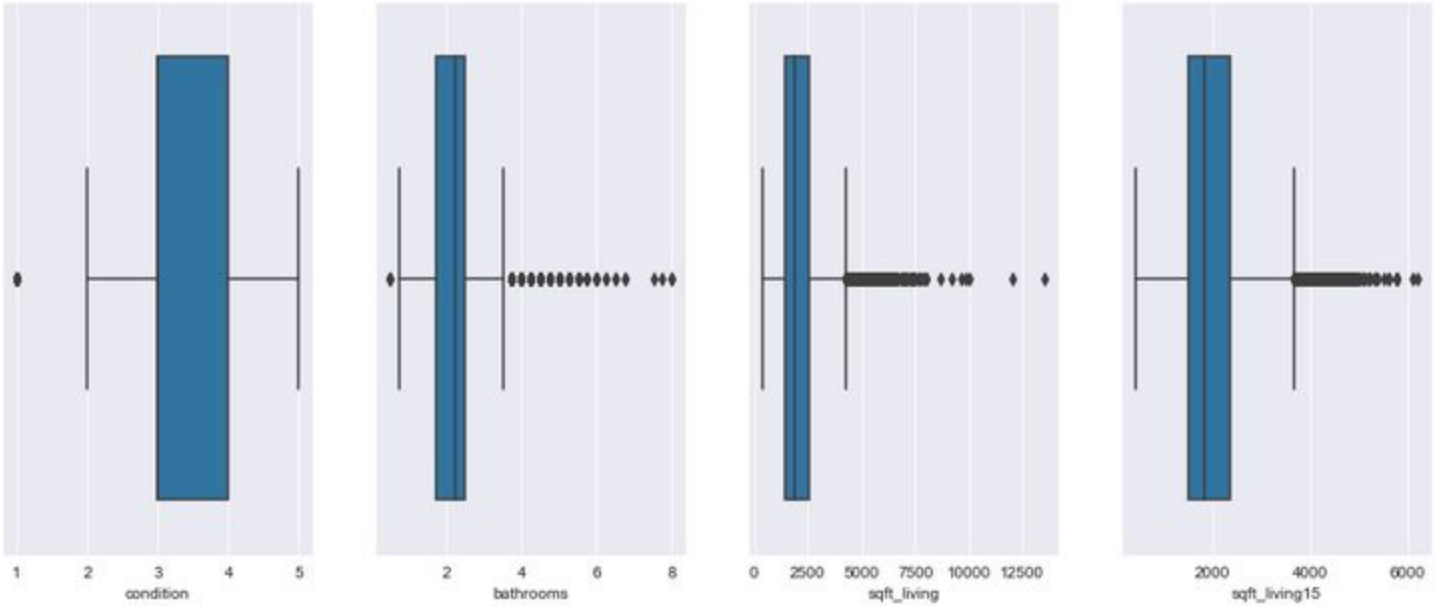




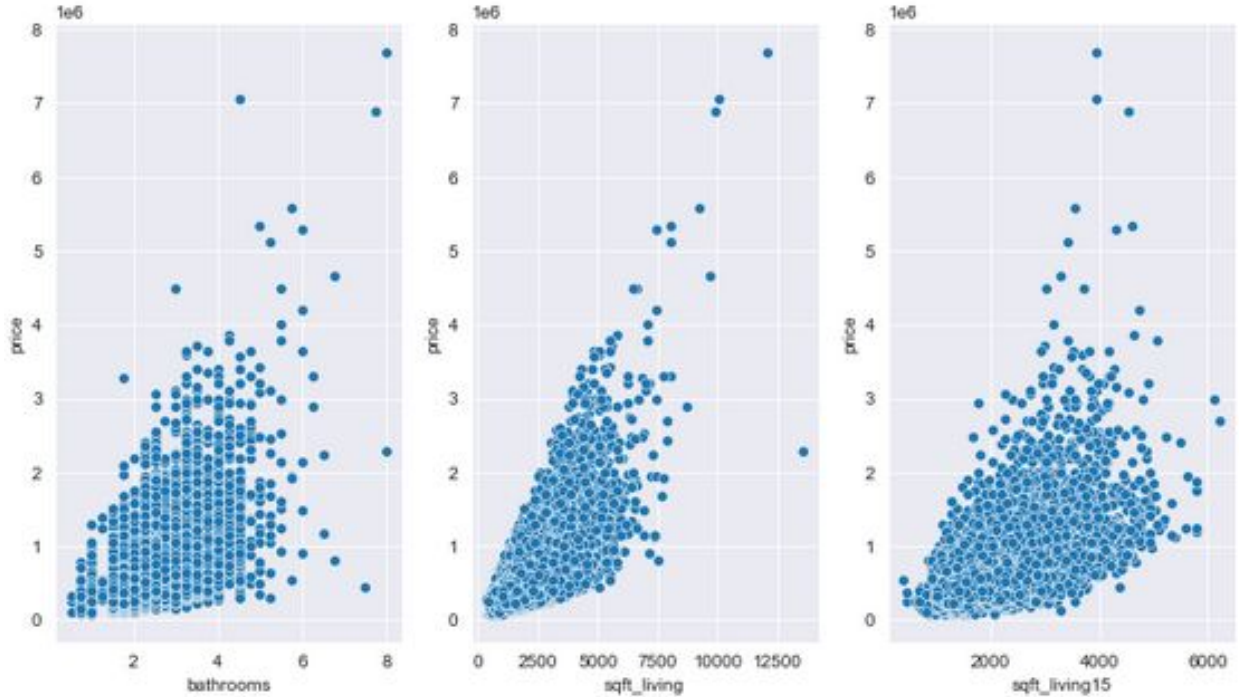

price
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1.0
1.5
2.0
2.5
3.0
3.5
floors


price
800000
700000
600000
500000
400000
300000
200000
100000
0
False
True
renovated

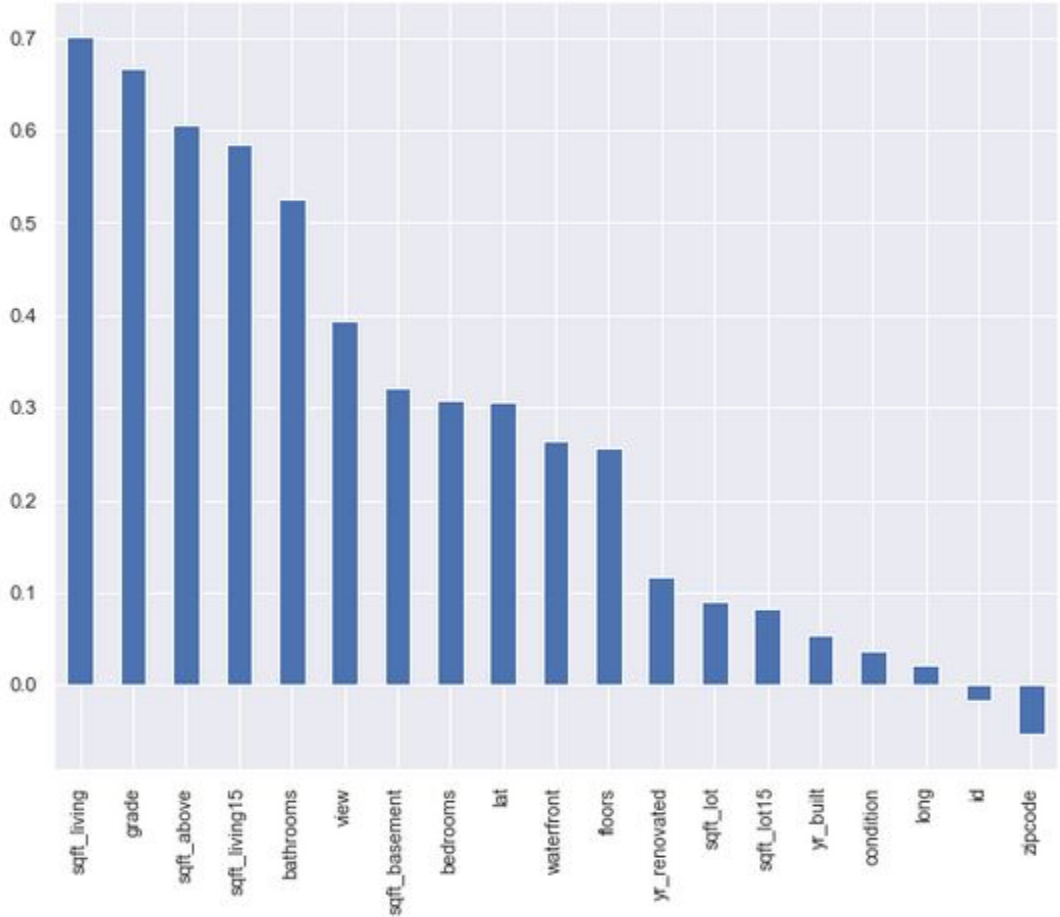
Outliers


1
2
3
4
5
condition
2
4
6
8
bathrooms
0
2500
5000
7500
10000
12500
sqft_living
2000
4000
6000
sqft_living15

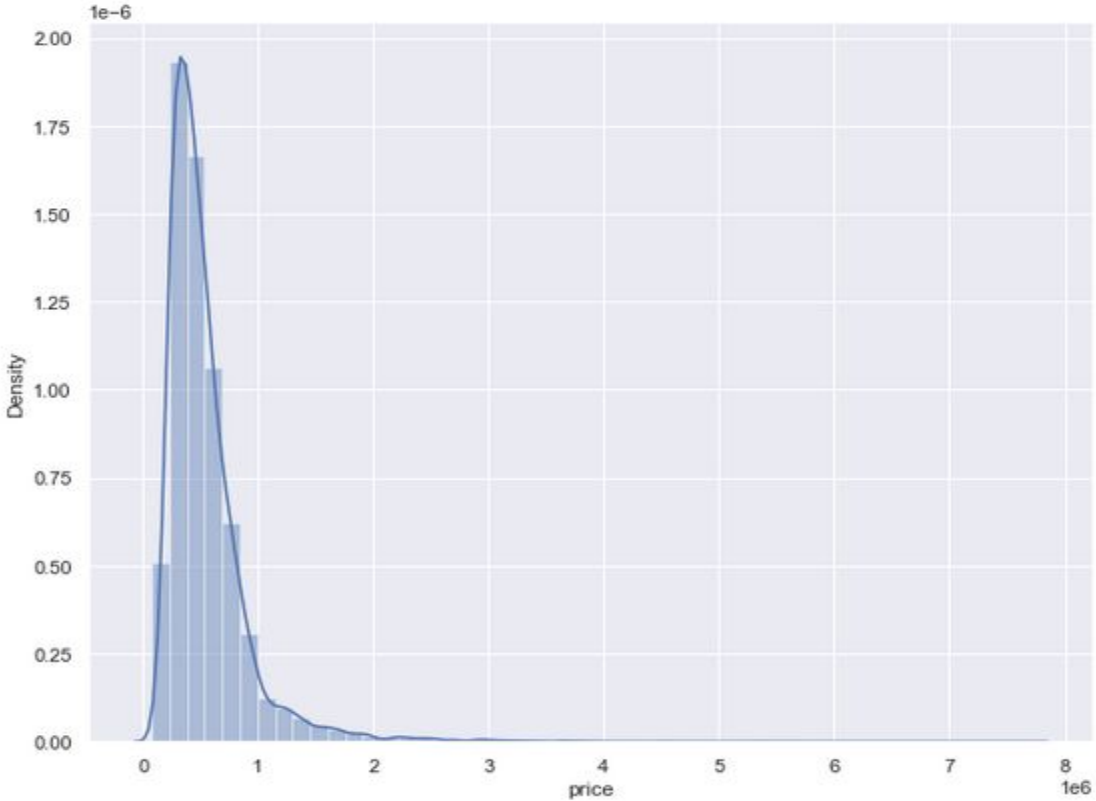
SCatter plot for continuous variables



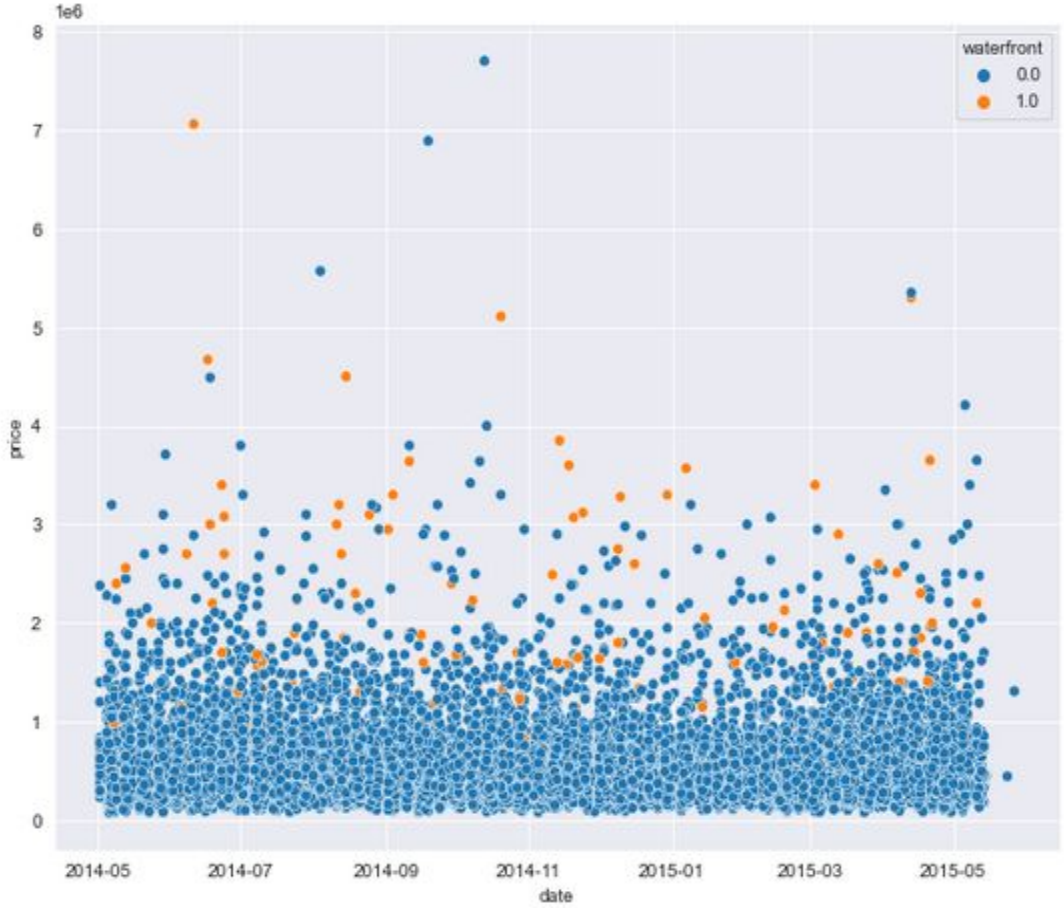
Correlation with Price

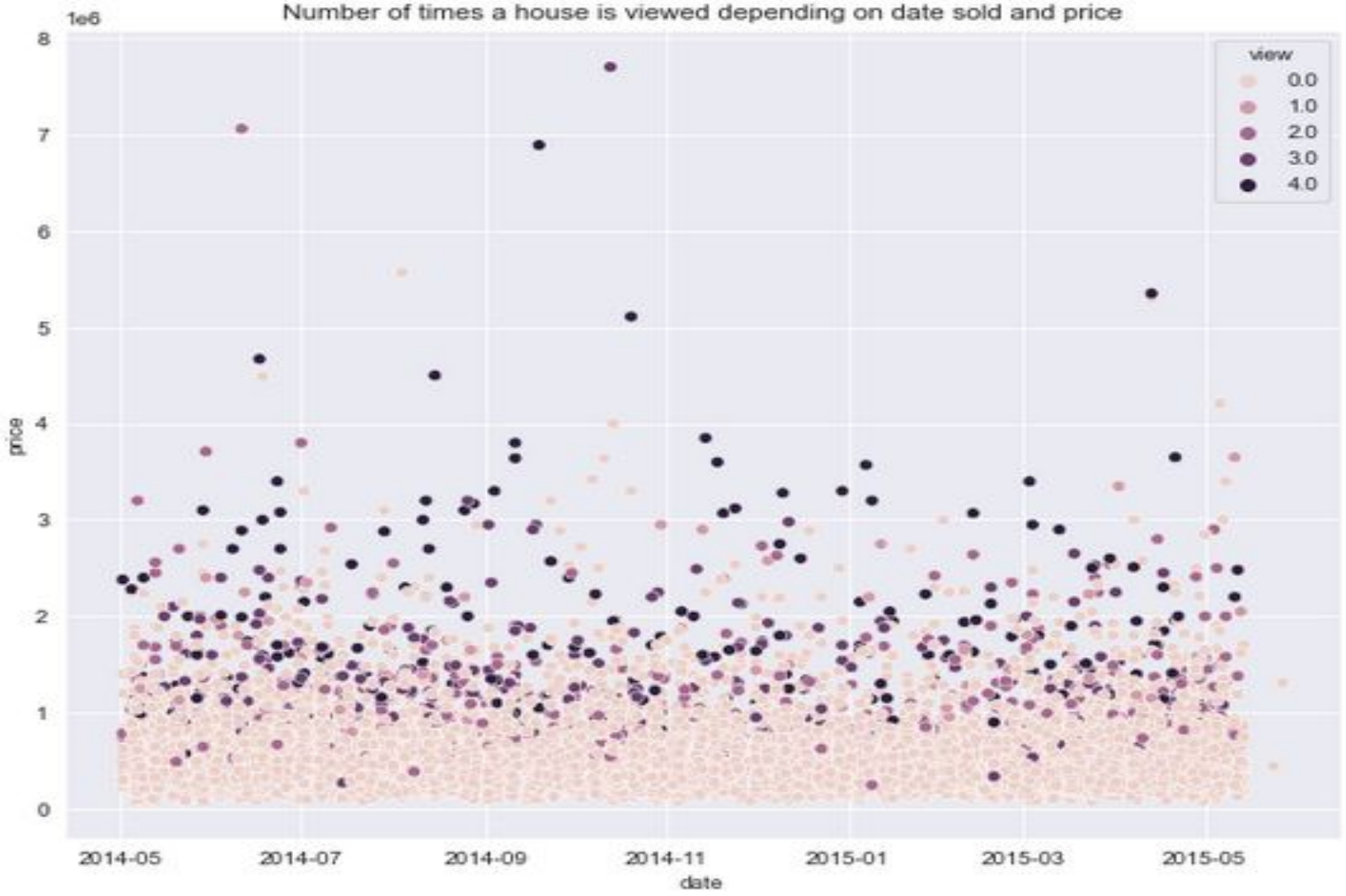


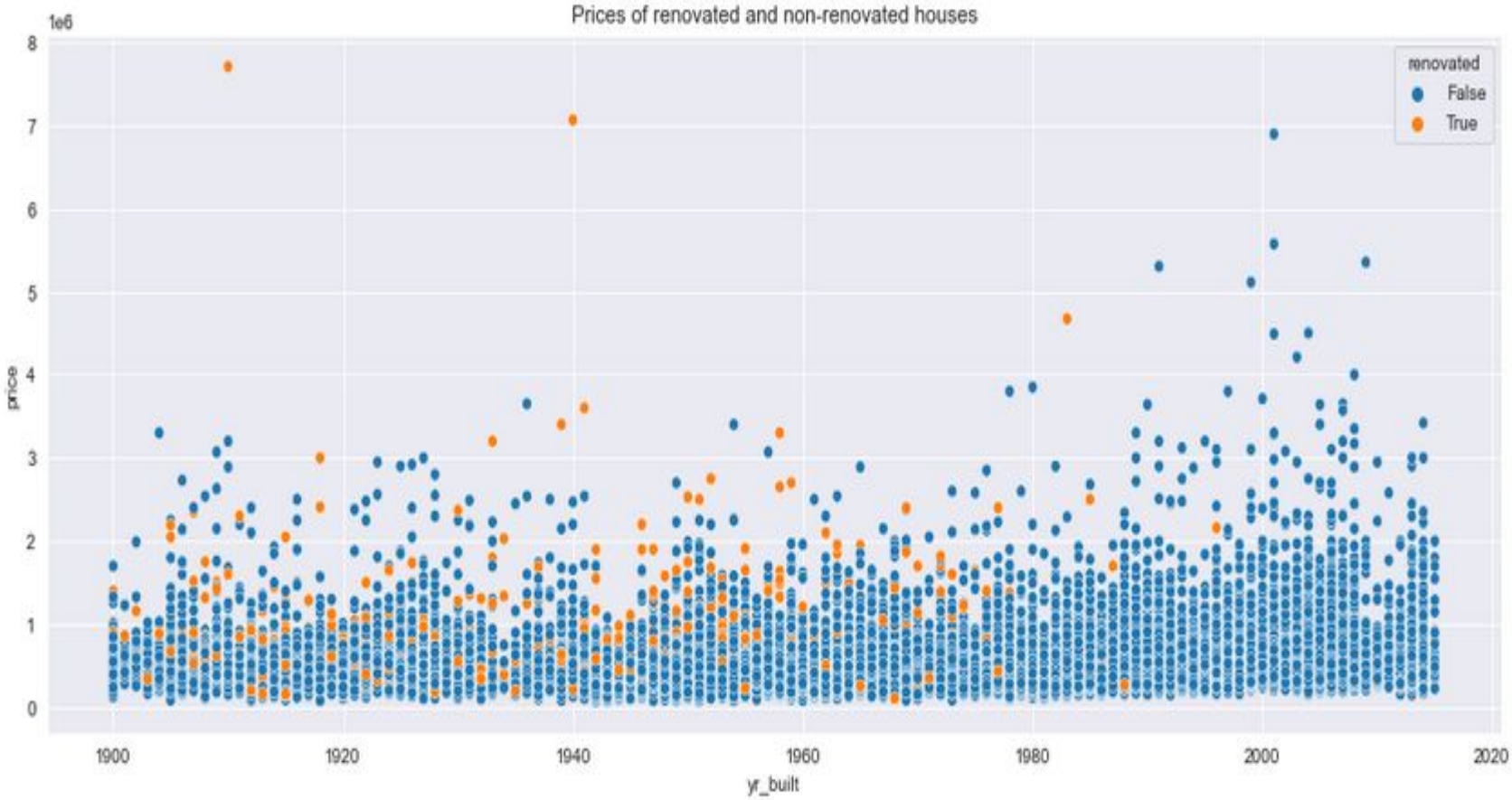
Price Distribution



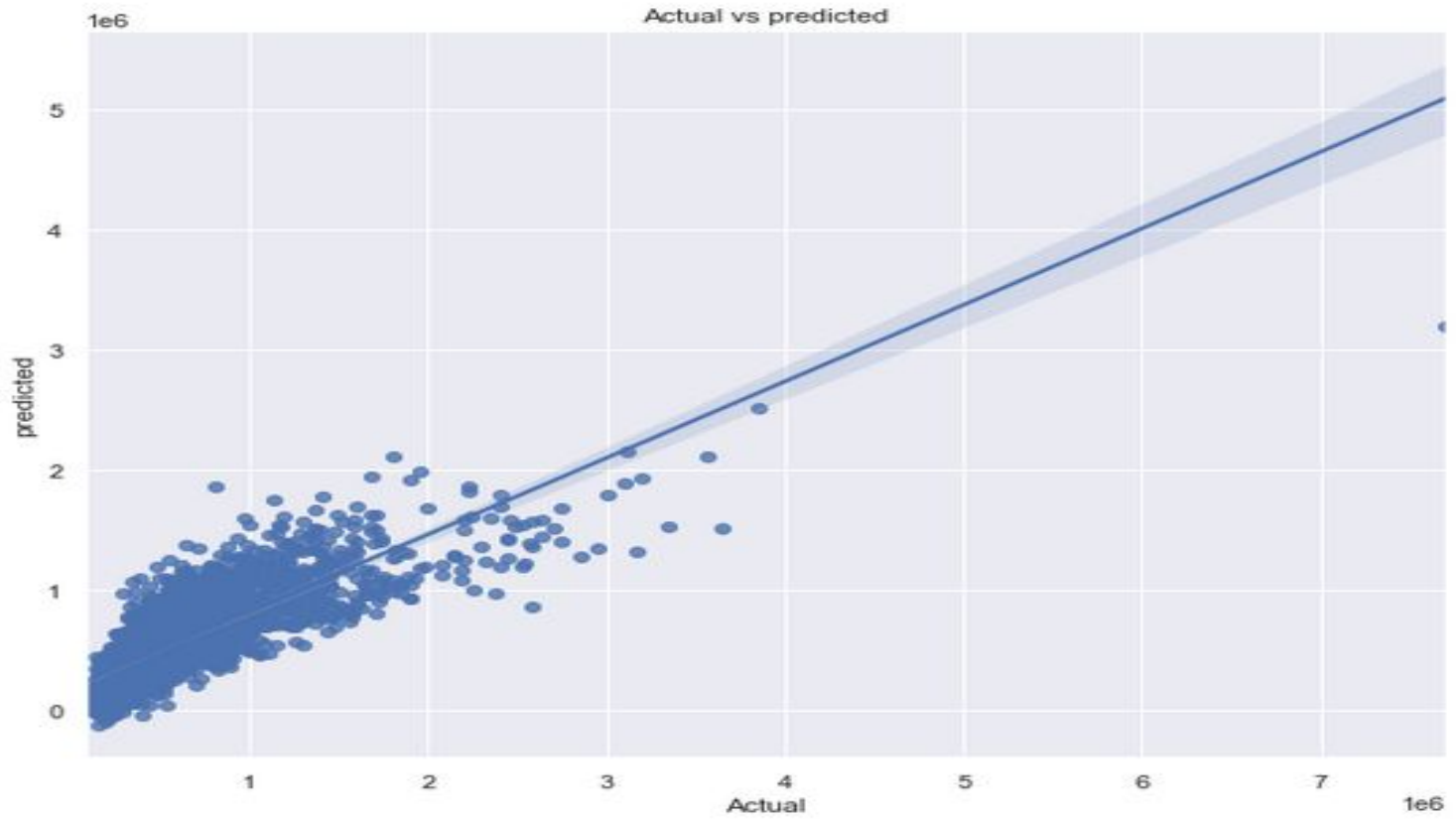
How waterfront affects price




Number of times a house is viewed depending on date sold and price
1e6
8
7
6
5
4
3
2
1
0
price
view
0.0
1.0
2.0
3.0
4.0
2014-05
2014-07
2014-09
2014-11
2015-01
2015-03
2015-05
date


Prices of renovated and non-renovated houses
1e6
8
7
6
5
4
3
2
1
0
price
1900
1920
1940
1960
1980
2000
2020
yr_built
renovated
False
True

Model


Actual vs predicted
1e6
predicted
0
1
2
3
4
5
Actual
1
2
3
4
5
6
7
1e6

Question 1: Does a house with waterfront cost more?

According to the graph above we can see that houses with waterfront are much more expensive compared to those without.

Which house to customers like to view?

Most viewed houses are expensive probably because they are of much higher quality.

How to make the house more valuable?

The better the bathroom the better the house according to our graphs.

5 -10 bedrooms have higher value compared to the those less than 5 and more than 10

The higher the grade the valuable the house

Condition 3 to 5 have higher value compared to the those less than 3

By how much home renovations increase value?

By an average of 200000 ,house renovation increases price