

King County House Pricing Model

By
Fernando Aguilar Islas



Objectives



Problem Statement

- What is a good ask price for my home?
 - What should I offer to purchase a home?
 - How to maximize the return on my real estate investment.
-



Business Value

- In order to make better economic decisions regarding real estate, it is important to understand how the home's particular characteristics influence its price.
-

Methodology

01

Gathering Data

King County housing features and prices data set.

02

Cleaning and Exploring

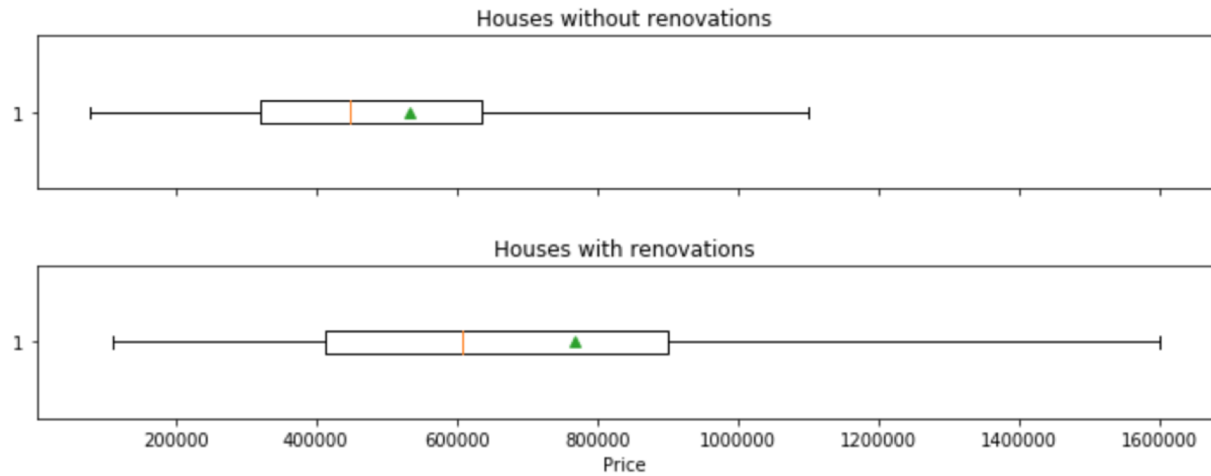
Start answering relevant questions with the data.

03

Develop the Model

Create a model that reliably predicts housing prices.

id	date	price	bedrooms	bathrooms	sqft_living	sqft_lot	floors	waterfront	view	condition	grade	sqft_above	sqft_basement	yr_built	yr_renovated	zipcode	lat	long	sqft_living15	sqft_lot15	
0	7129300520	10/13/2014	221900.0	3	1.00	1180	5650	1.0	NaN	0.0	3	7	1180	0.0	1955	0.0	98178	47.5112	-122.257	1340	5650
1	64141100192	12/9/2014	538000.0	3	2.25	2570	7242	2.0	0.0	0.0	3	7	2170	400.0	1951	1991.0	98125	47.7210	-122.319	1690	7639
2	5631500400	2/25/2015	180000.0	2	1.00	770	10000	1.0	0.0	0.0	3	6	770	0.0	1933	NaN	98028	47.7379	-122.233	2720	8062
3	2487200875	12/9/2014	604000.0	4	3.00	1960	5000	1.0	0.0	0.0	5	7	1050	910.0	1965	0.0	98136	47.5208	-122.393	1360	5000
4	1954400510	2/18/2015	510000.0	3	2.00	1680	8080	1.0	0.0	0.0	3	8	1680	0.0	1987	0.0	98074	47.6168	-122.045	1800	7503

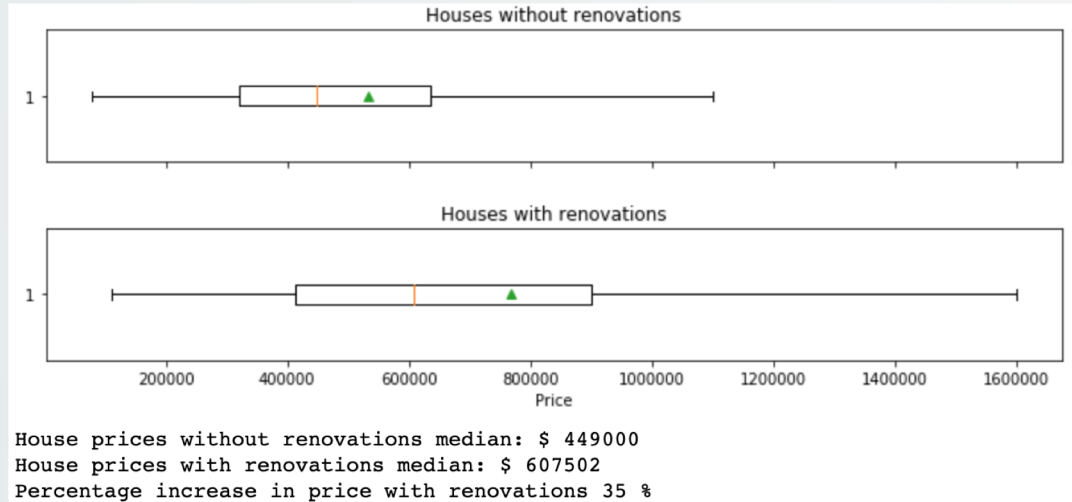


House prices without renovations median: \$ 449000
House prices with renovations median: \$ 607502
Percentage increase in price with renovations 35 %

Home Renovations and ROI

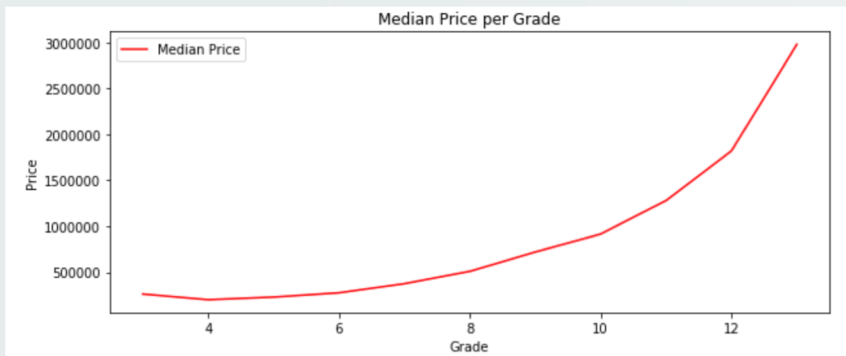
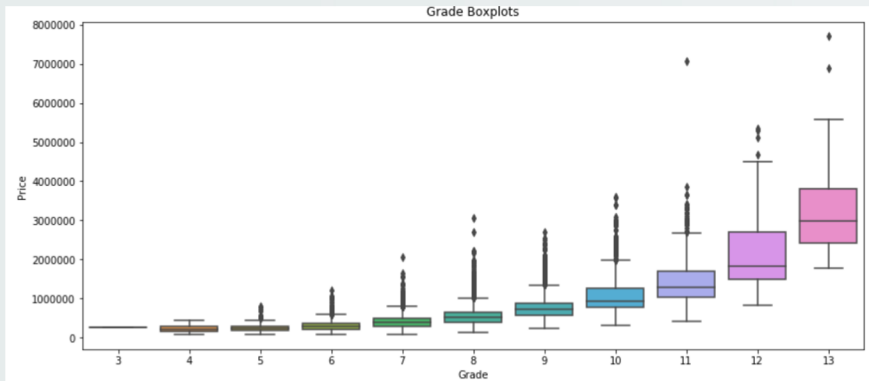
Renovated homes sold for a median price 35% higher than non-renovated homes.

Home Renovations and ROI



Renovated homes sell for a median price 35% higher than non-renovated homes.

Home Grade



King County Grading System
Increases objectivity by providing a public grading rubric to categorize houses.



**The higher the grade
the higher the price.**

“Location, Location, Location”

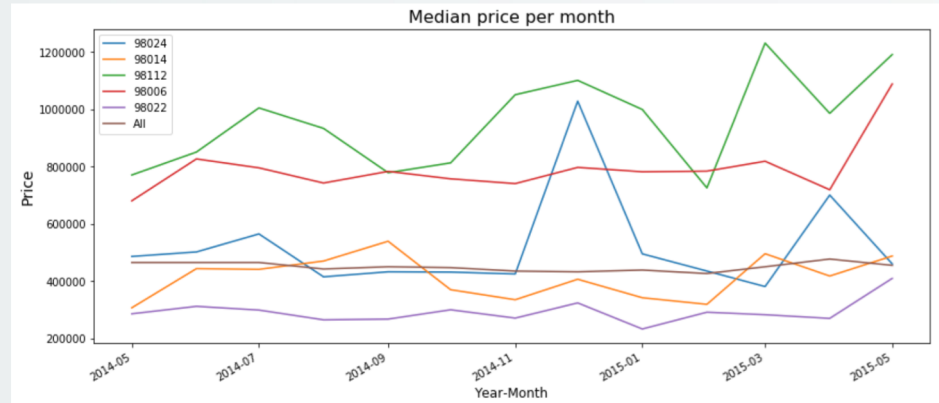
What zipcodes have experienced greater price fluctuation?

The top 5 zipcodes are: 98024, 98014, 98112, 98006, 98022

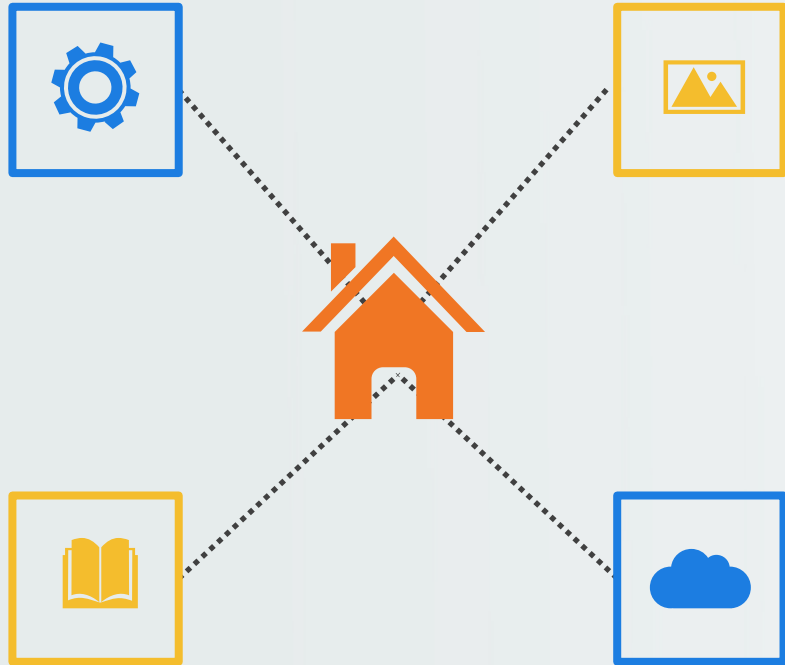


Possible explanations:

- Gentrification
- New developments and constructions



Final Pricing Predictive Model



Significant Features

- Livable square footage
- Latitude
- Zipcode
- Grade

The model explains approximately 83% of house pricing.





Predicting House Prices
In King County

Thank you

For the technical notebook please access the following link:

<https://github.com/feraguilari/dsc-1-final-project-online-ds-pt-021119/blob/master/student.ipynb>



Questions?