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# King County Market Report



King County Real Estate  
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## Why Are We Here Today ?

- Strong buyer demand
- Limited inventory
- Seller's market





# Data

The Kings County Housing dataset:

- 21597 houses sold during May 2014 to May 2015
- 20 features including price, size of the houses, location, grade and others
- Median price of the houses: \$450,000
- Mean price of the houses: \$ 540,296

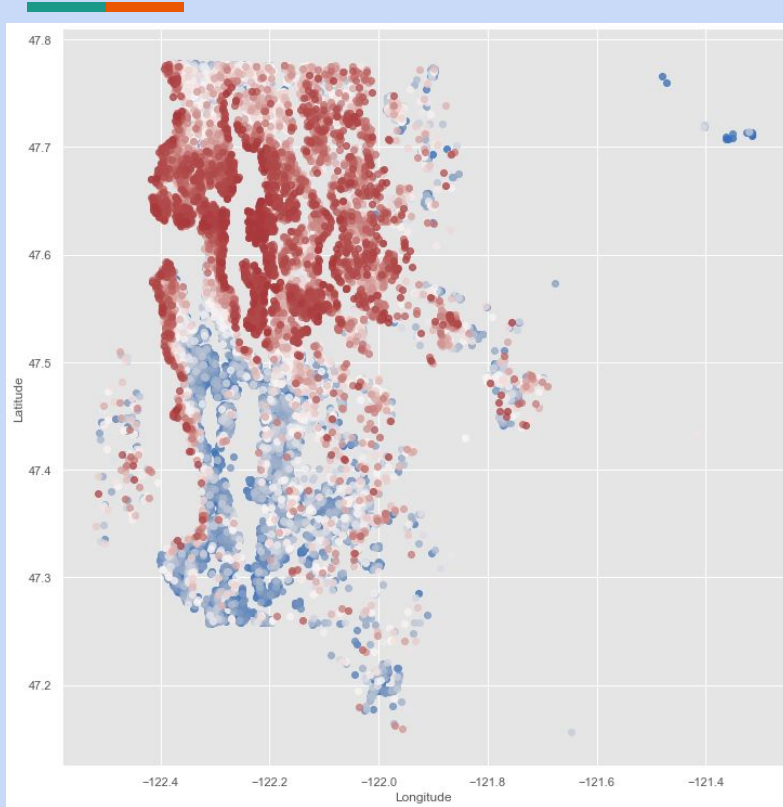


## Methods

- An exploratory data analysis was performed
- Linear Regression models have been built and refined
- The model with predictors were trained and tested
- Find out the important features of predicting housing prices in King County



# EDA - Housing Prices Heatmap



Higher price homes are located in North King County.

More dark red dots are located on waterfront.

## EDA - Top 10 Housing Prices by Zip Code



Zip code 98039 with the highest average housing price.

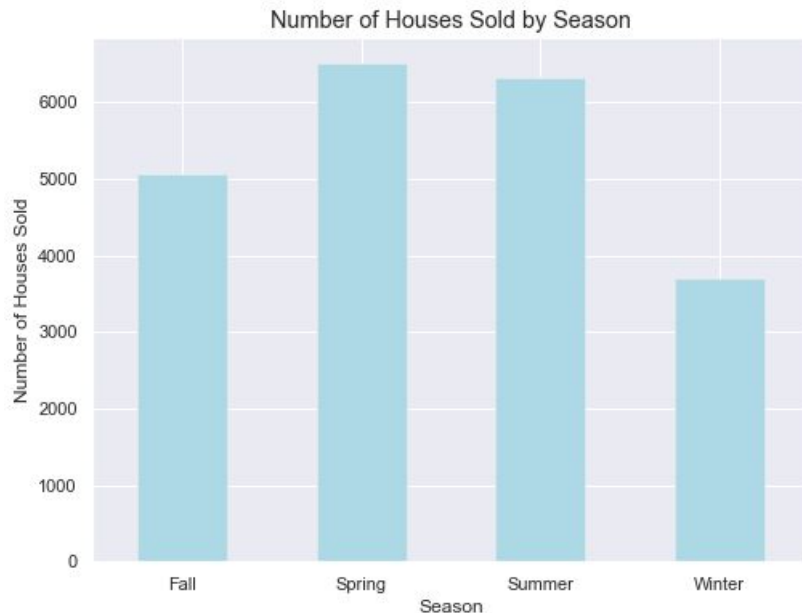
Average housing price in the rest of top 10 zip code look more even.

## EDA - Average Price by Season



Spring and summer are the seasons with higher average housing prices.

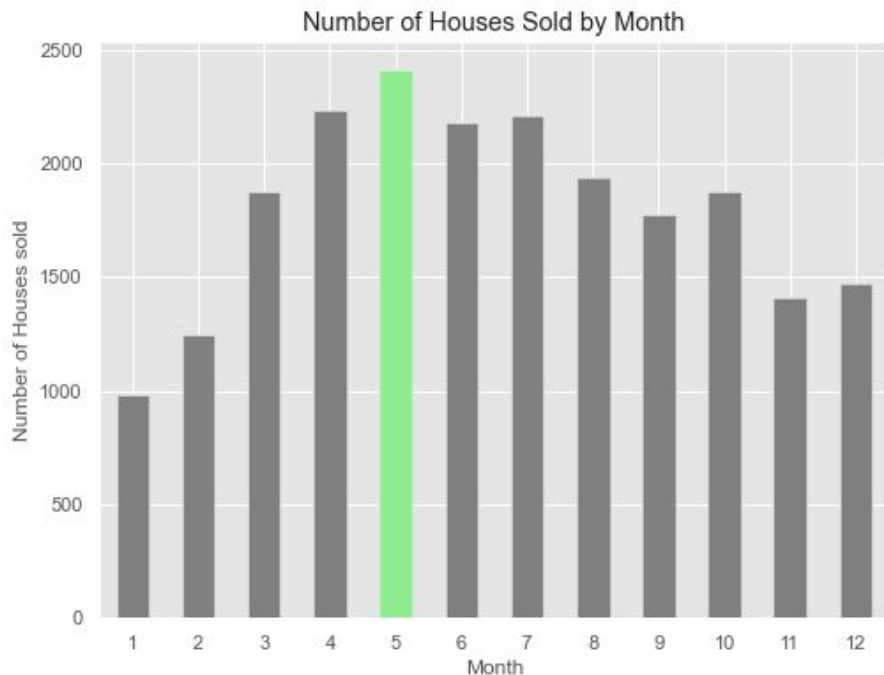
## EDA - Houses Sold by Season



More houses are sold during spring and summer.



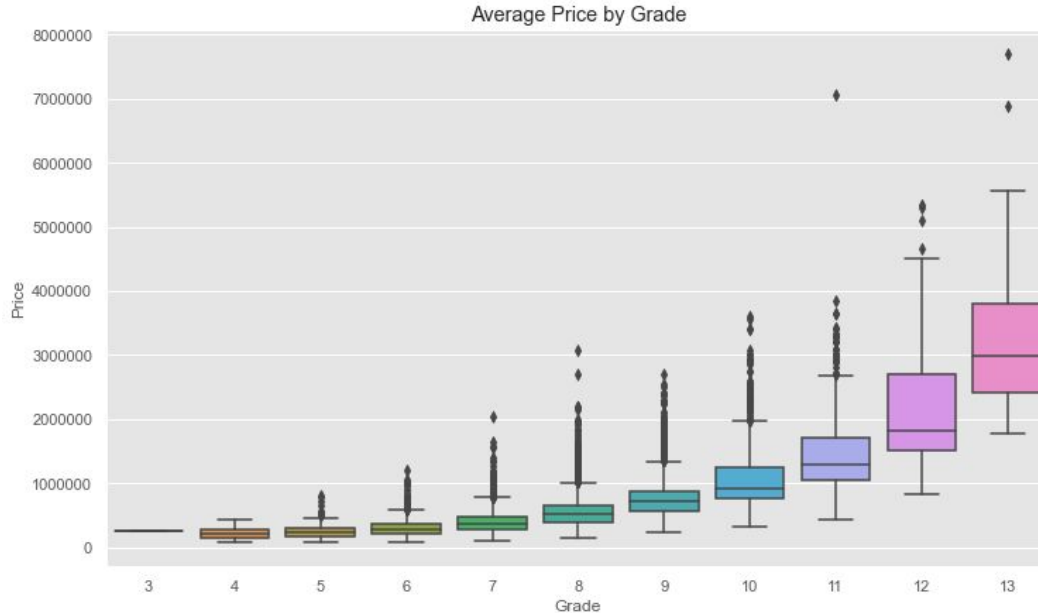
## EDA - Houses Sold by Month



More houses are sold from March to August than other months.

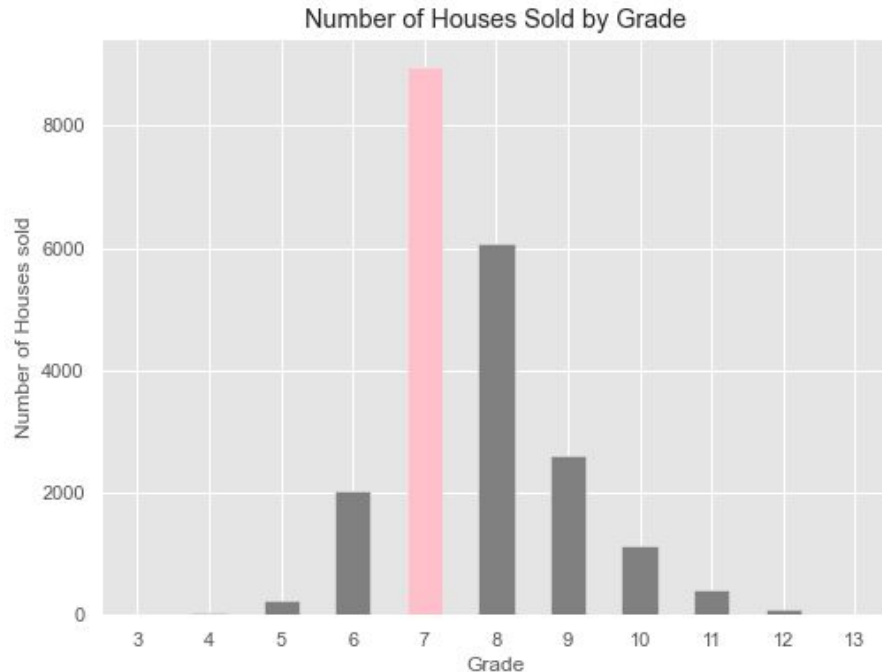
Buyers should expect to see more inventory starting from March.

## EDA-Average Housing Price by Grade



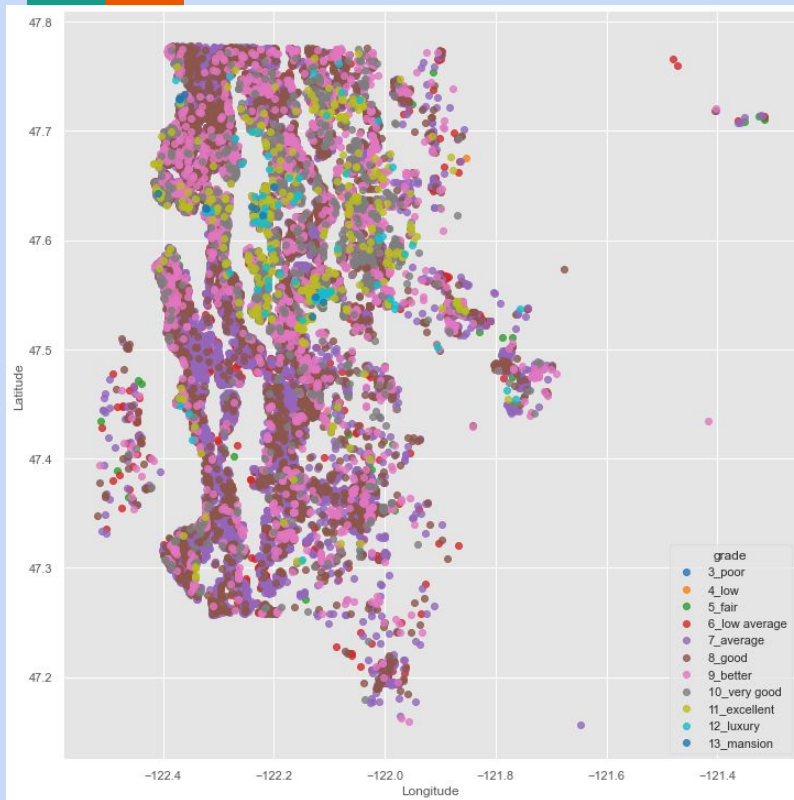
Housing prices to increase with a higher grade.

## EDA- Houses Sold by Grade



Average grade houses are most available followed by good and better.

# EDA - Houses Grade Heatmap



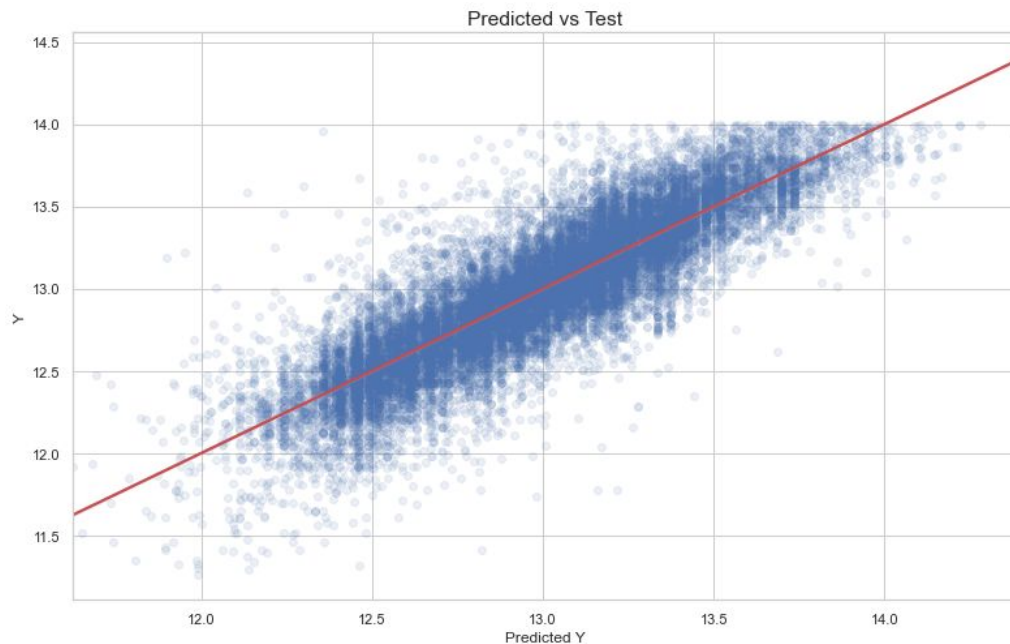
- Average grade houses are the most available
- Excellent or luxury homes on waterfront



## Price Prediction Model

	Model A	Model B	Model C	Additional Refinements	Final Model
R-squared	53%	58%	77%	82%	74%
Features	Baseline model with 3 features	More categorical variables added	Zip Code variable added	Remove outliers and log transformation	Recursive feature elimination

# Price Prediction Model



- Excluded housing prices more than \$1.6M
- The final model can explain 74% of variants in price to predict housing prices in King County

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## Conclusions

- Construction quality, design, living space, condition, and bathroom impact housing prices greatly
- Location, location, location ! Where the house is located determines the price most !
- Crime rate, household income, school district, public transportation, inventory on the market and mortgage interest rates were not considered in this research



# What We Could Offer

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**Any Questions ?**