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
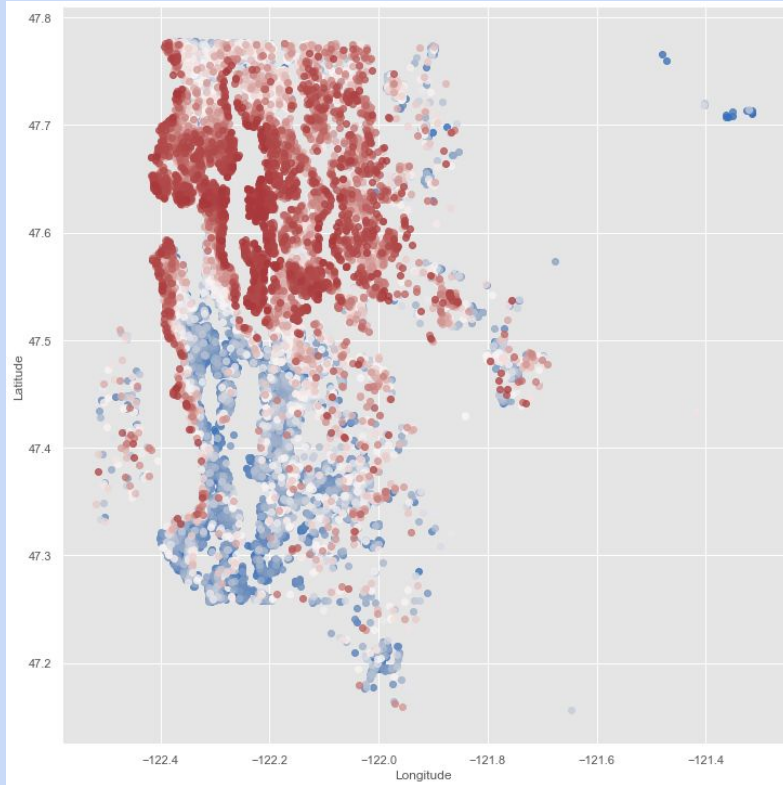- Mean price of the houses: $ 540,296

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

Top 10 Average Price by Zip Code

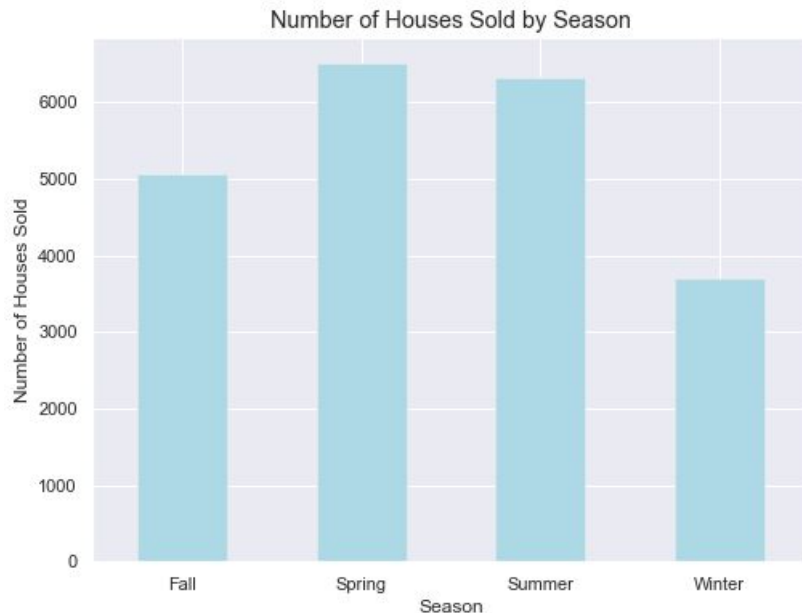Zip code 98039 with the highest average housing price.

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

EDA - Average Price by Season

Price by Season

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

EDA - Houses Sold by Season

Number of Houses Sold by Season

More houses are sold during spring and summer.
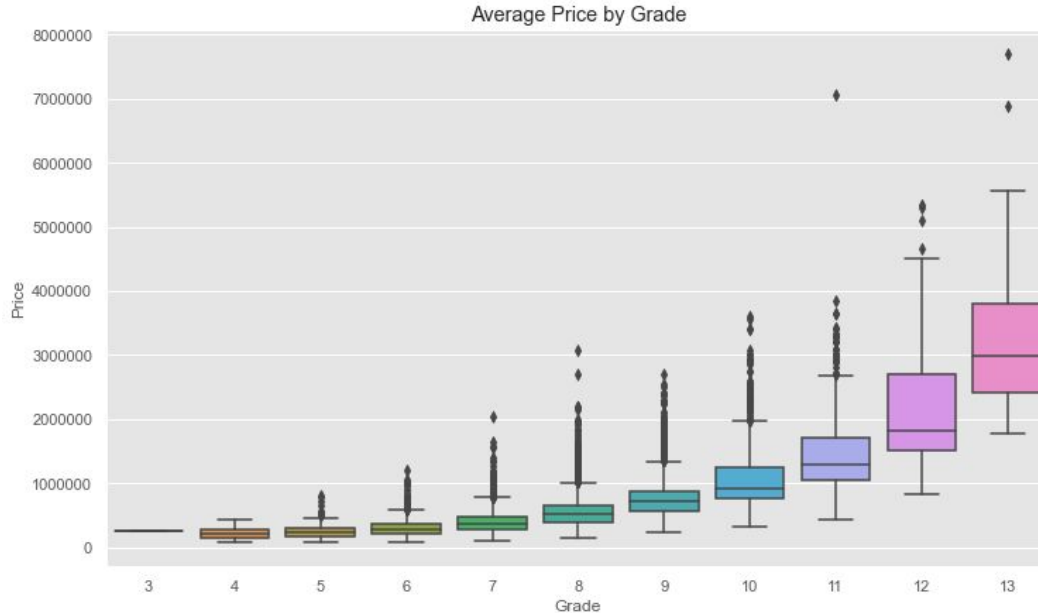
EDA - Houses Sold by Month

Number of 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.
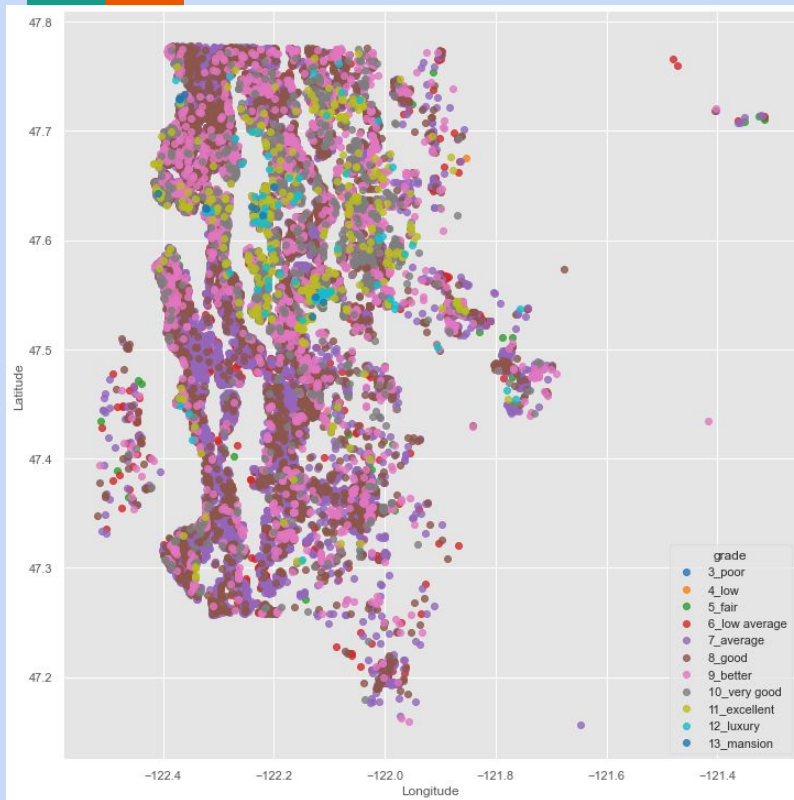
EDA-Average Housing Price by Grade

Average Price by Grade

Housing prices to increase with a higher grade.

EDA- Houses Sold by Grade

Number of Houses Sold by Grade
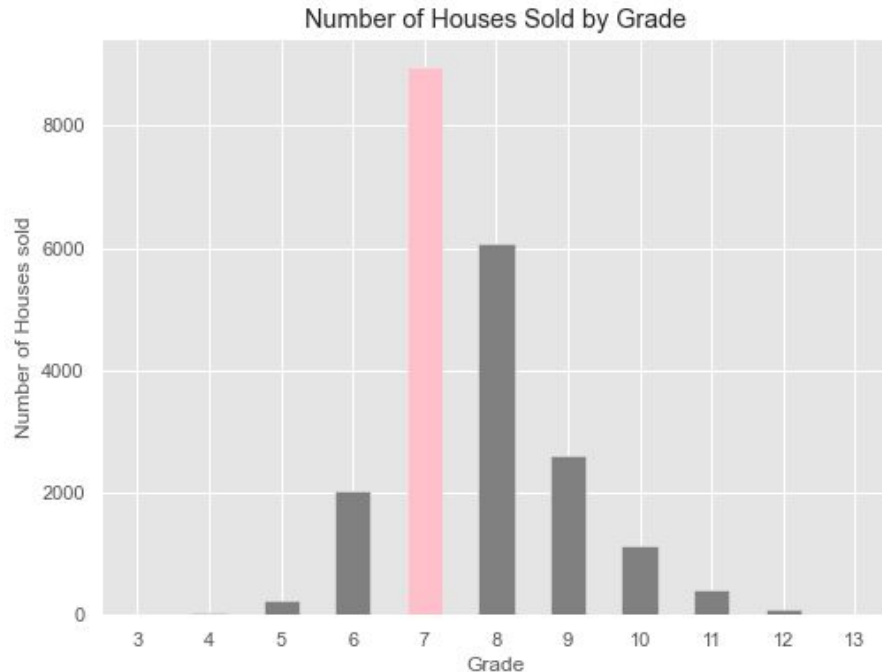
Average grade houses are most available followed by good and better.

EDA - Houses Grade Heatmap

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

Price Prediction Model

	Model A (Baseline model)	Model A (log transformation)	Model B	Model C	Final model
R-squared	49.3%	38.6%	48.2%	84.6%	84.3%
Features	1 features	Removed outliers and log transform sqft_living and price	More categorical variables added	Zip Code variable added	Recursive feature elimination

Price Prediction Model

Predicted vs Test
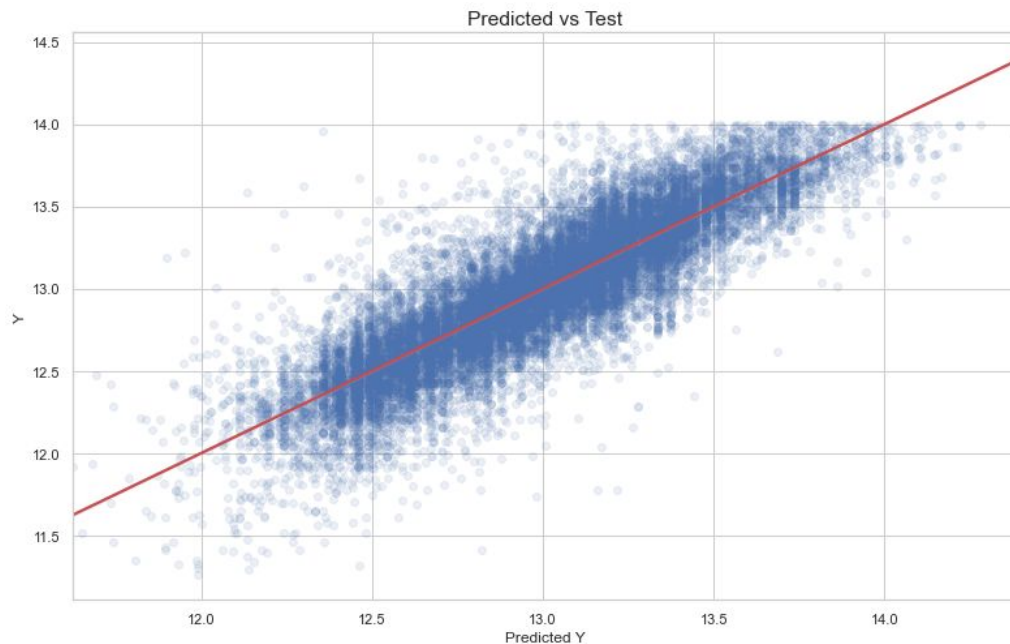
- Excluded housing prices more than $1.6M
- The final model can explain 84% of variants in price to predict housing prices in King County

Conclusions

- Living space, waterfront and zip codes 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

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Any Questions ?