Kings County Real Estate

Housing Analysis

Summary

Descriptive analysis and modeling reveal which factors contribute most to housing prices:

- Living Area(in square feet)
- Location (47.55 15°N to 47.7 15°N)
- House Quality(grade)

Business Problem

Kings County Real Estate has hired us to investigate which features of a home have the greatest effect on price.

- They would like us to make a model to predict housing prices.
- From that model, they would like to know which factors have the largest effect on price.

Data and Methods

Data:

King County House Sales Data from 2014 to 2015.

The dataset "kc_house_data.csv" was obtained from the link below.
https://osf.io/twq9p/

Methods:

Linear regression models and descriptive analysis

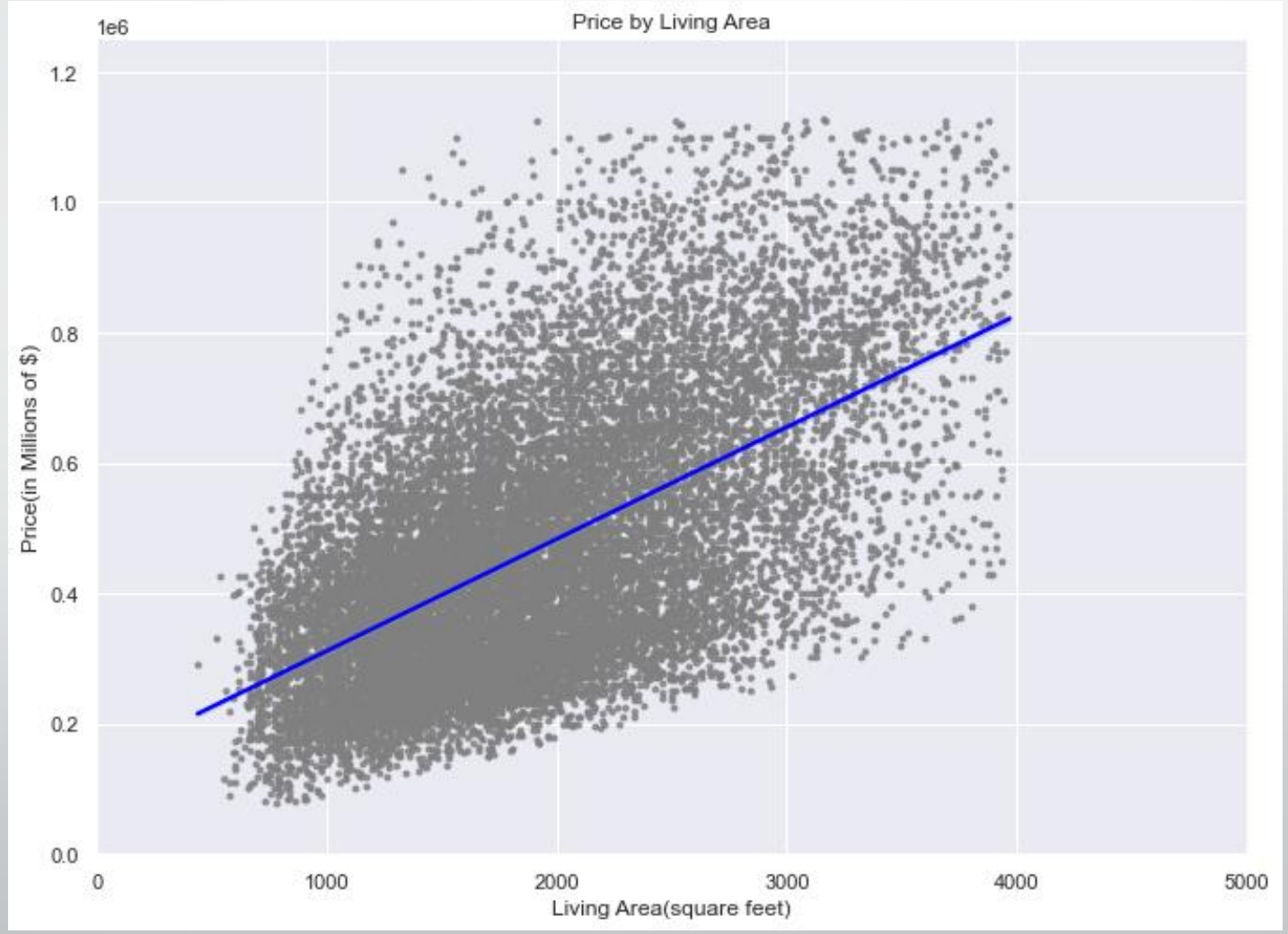
Results

- We have a model that has an Coefficient of Determination (R-squared) value of 0.672 which indicates that our model can explain 67.2% of all variation in the data around the mean.

- With a Mean Squared Error of around 140227 USD, that means our predicted price is, on average, 140227 USD off from our mean. While that number doesn't look too bad our Root Mean Squared Error is around 183833 USD which means that our model is being heavily penalized for predictions that are very far off the actual price.

Results

Price increases with increased living area (sqft).



Results

Location: Most expensive homes are here.

Results

House Quality(grade):

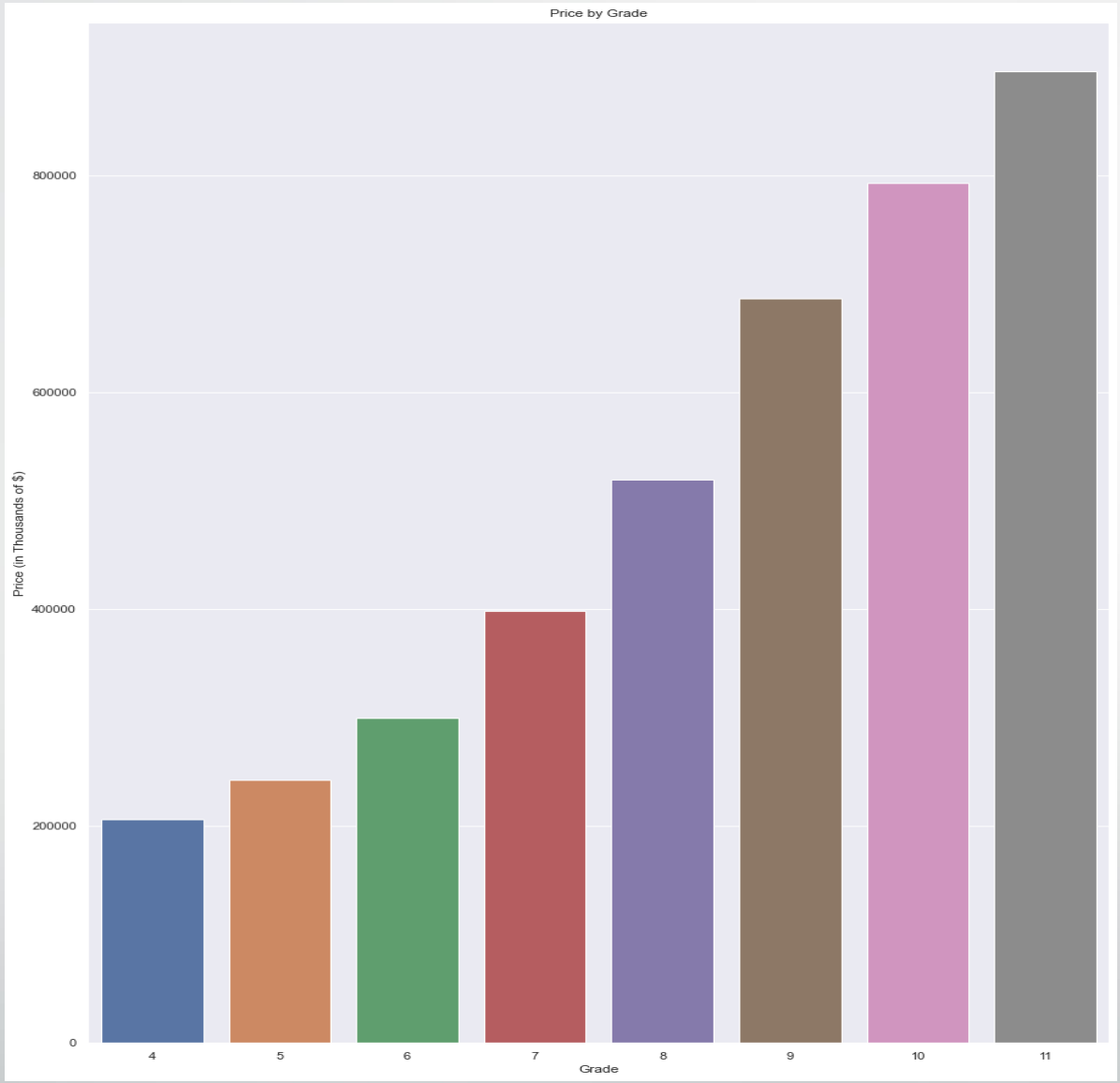
Price in $Thousands USD

$800,000

$600,000

$400,000

$200,000



4 5 6 7 8 9 10 11

Grade

Conclusion

Descriptive analysis and modeling reveal which factors contribute most to housing prices:

- Increase Living Area(in square feet)
- Buy homes in regions specified (47.55 15°N to 47.7 15°N) (Or maybe homes outside of this region will likely be more affordable)
- Upgrade the quality of your home

Future Research

- Outdated Data
- More from location data, incorporatong zipcode
- Streamlining, better model
- New modeling techniques e.g. Polynomial Regression and Weighted Least Squares

Thank you!

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