



# King County Project

Alice Kwon DS-PT-03.02.20



# Problem Statement

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- How Renovation Impacts Prices?
- When is the best time to sell a House?
- What are good indicators of price?
- For those indicators what is the best recommendation?

# Business Value

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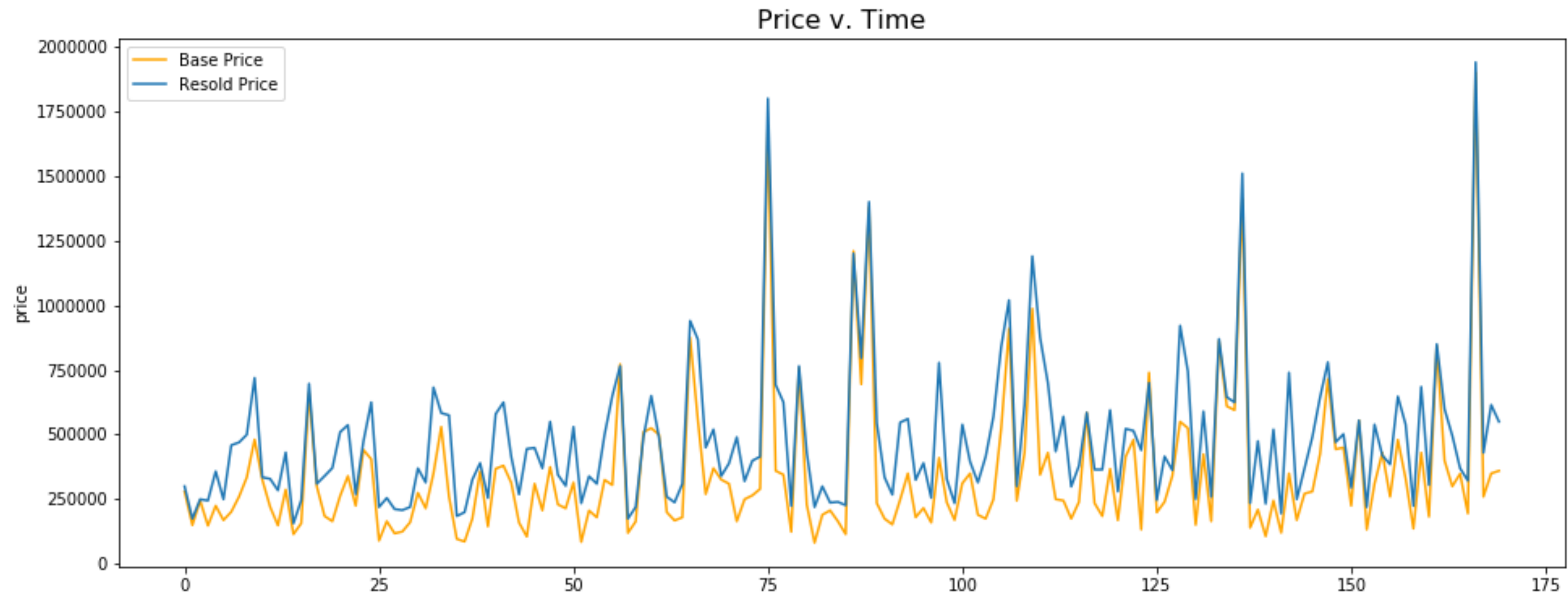
- Make good investments within budget.
- Make most return in our investment after selling the house.
- For those buying: best house to buy within budget.

# Methodology

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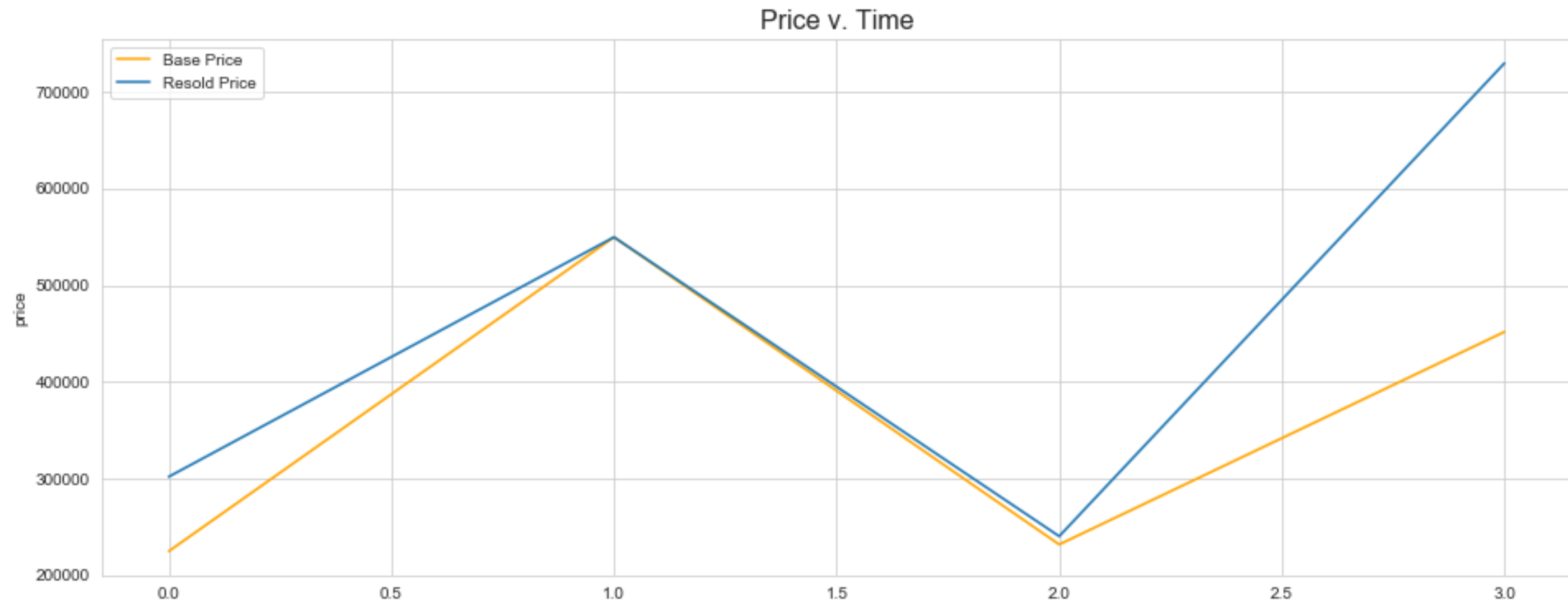
- **Data: King County data Kaggle**
- **See the changes of price after renovation.**
- **Count the sales for month and season.**
- **Use multivariate linear regression to find best indicators for price prediction.**
- **Figure out best recommendation using those indicators**

# Price Change Without Renovation



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# Price Change With Renovation



# Renovation

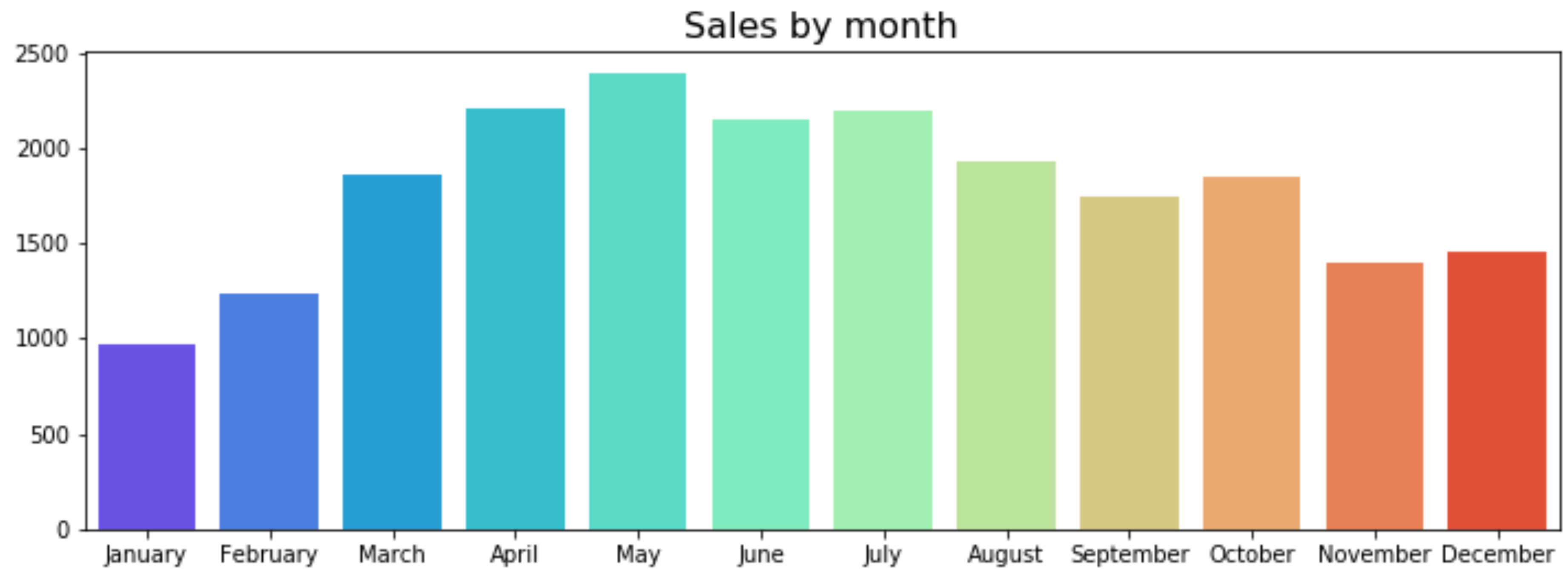
Price before after renovation with current data

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## Not enough data!

- With current data: not necessary to renovate.
- Price of non-renovated homes increase by about 29%
- Price of renovated home increase by about 29%

# Month to Sell



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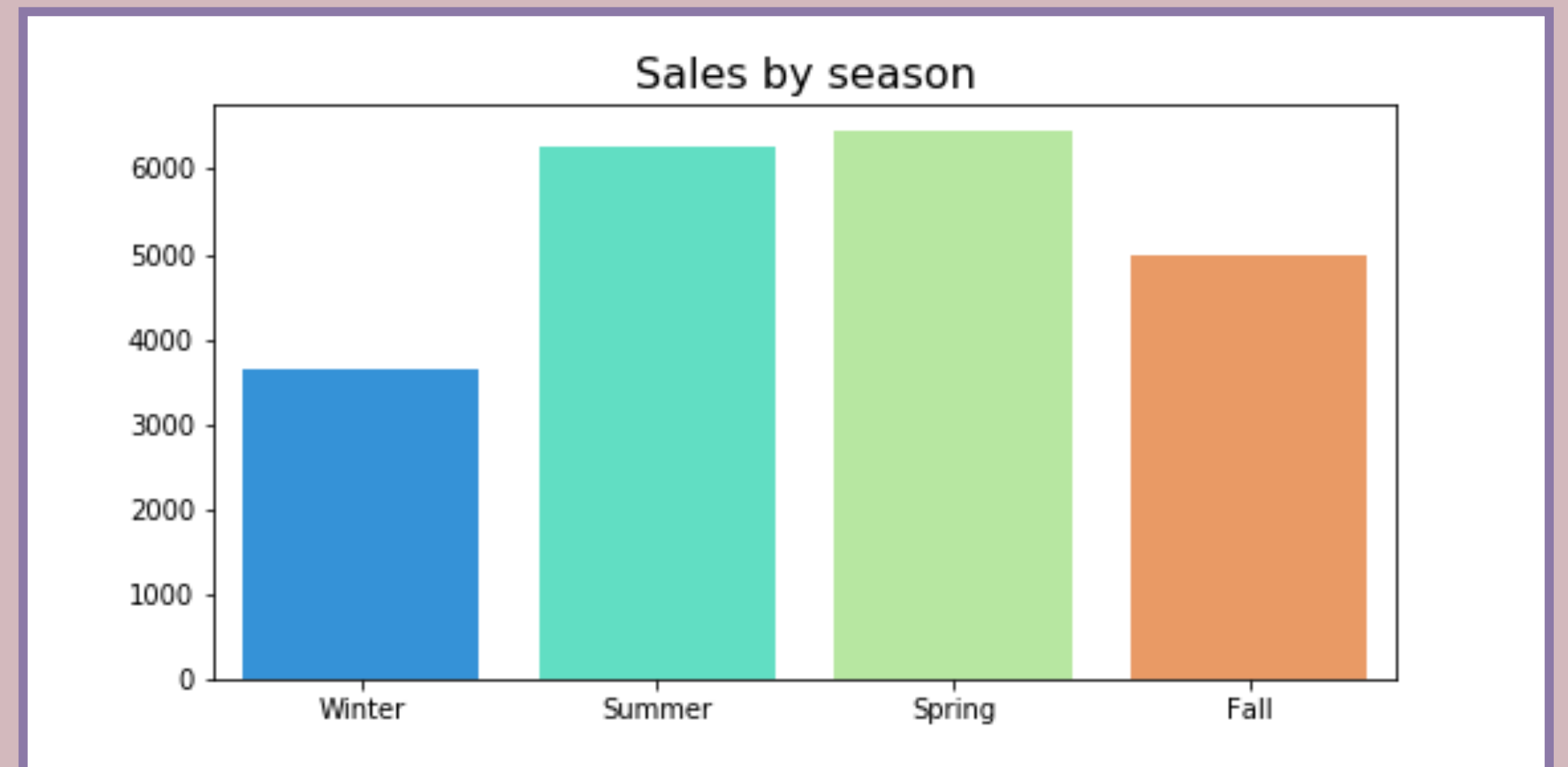


# Time to Sell

## By Season and Month

- Best time to sell is during the Spring.
- Best Month to sell is during May.
- Best time to advertise is most likely early Spring.

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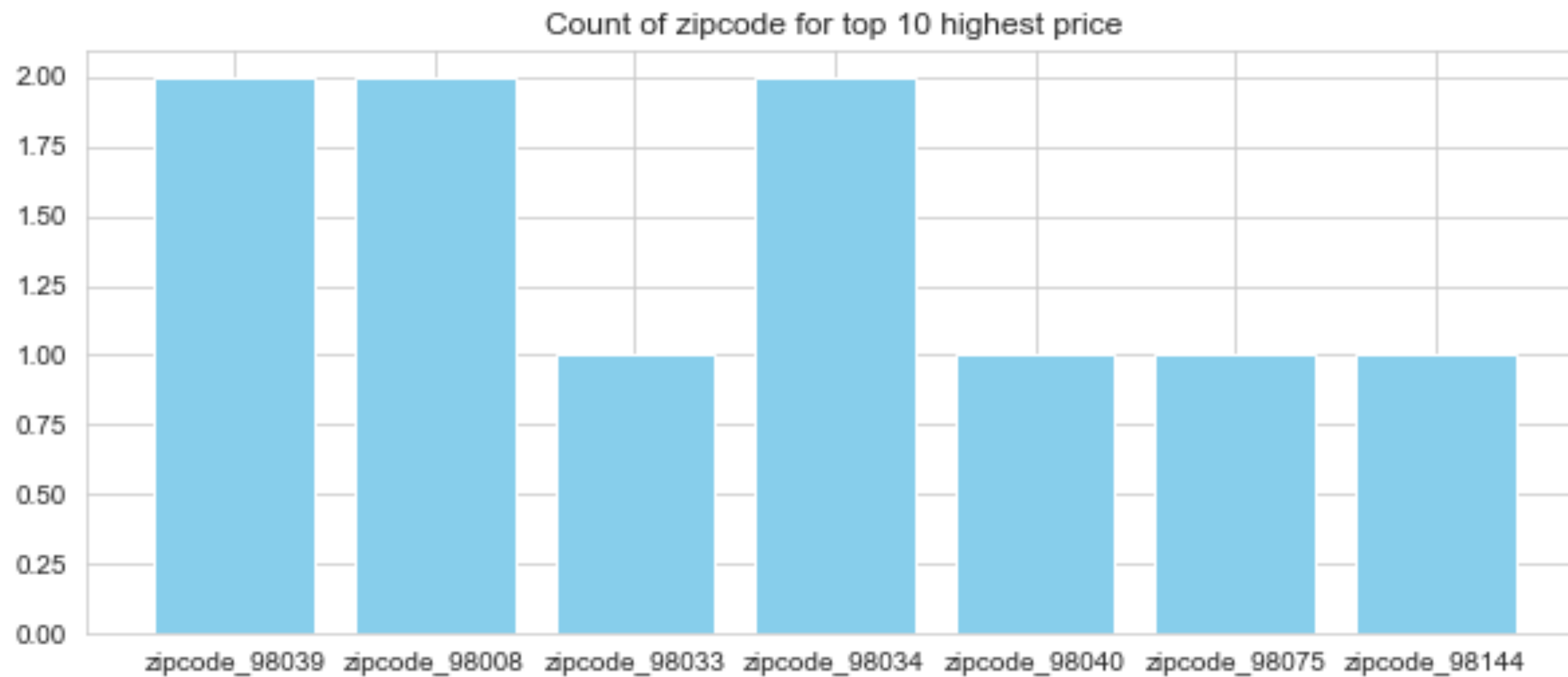
# Best Indicators of Price

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## Best indicators for price prediction:

- Square footage of home
- Location of home
- Grade of home

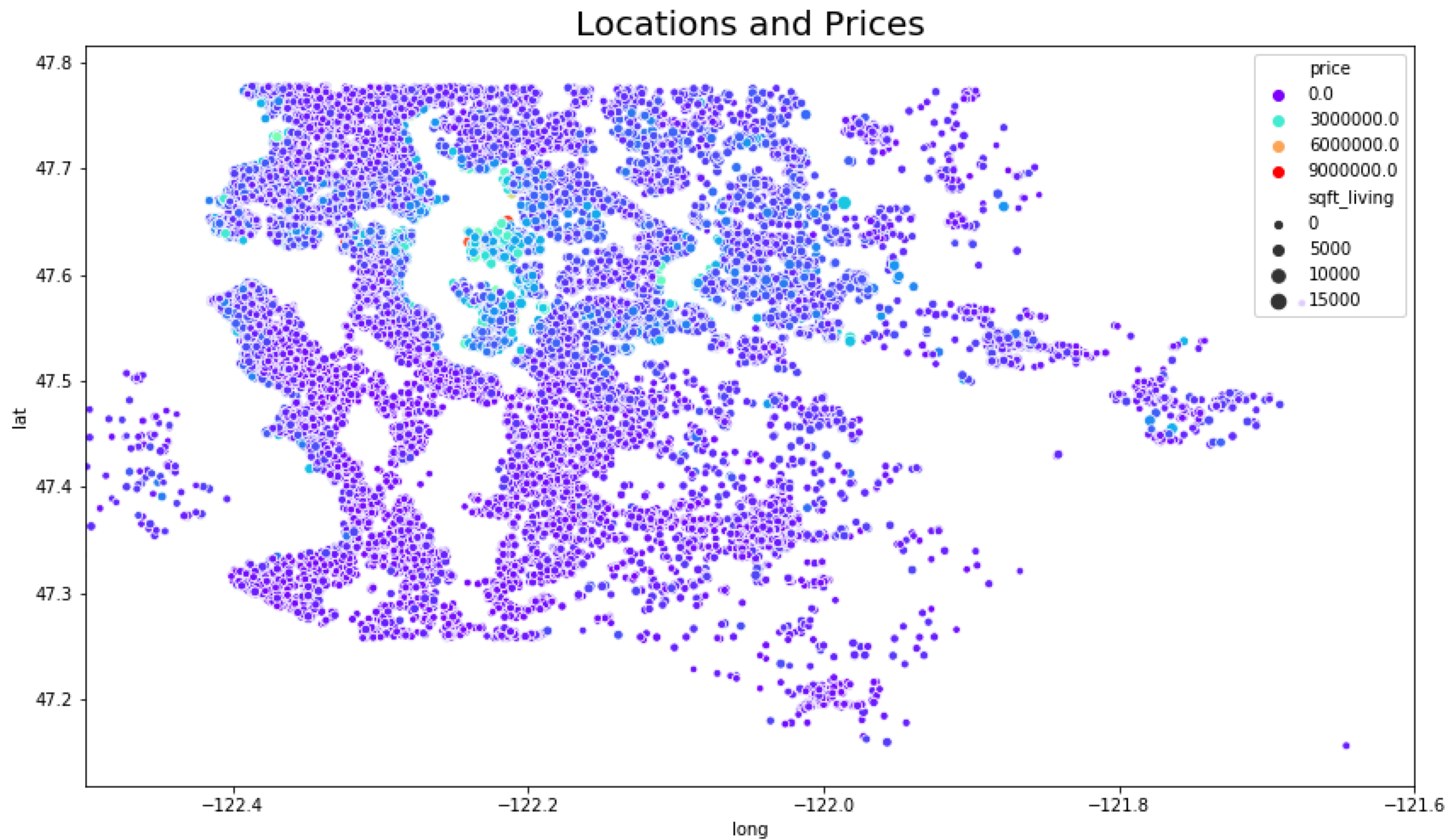
# Top Zip-codes for location



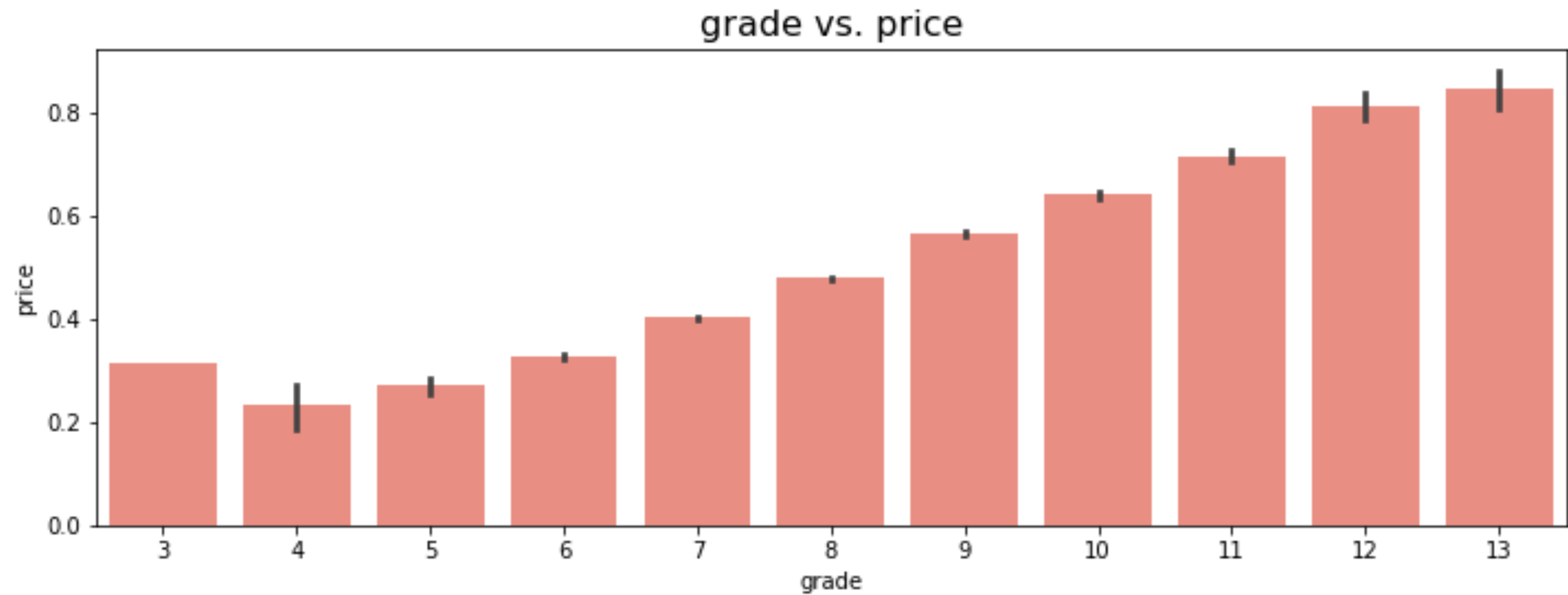
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# Best Locations



# Grade vs. Price



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# Recommendations

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## Business Recommendation:

- House that are slightly bigger than average but not beyond average
- Zipcode: 98039, 98008, 98033, 98034, 98040, 98075, 98144
- Purchase a house of grade 6 and above
- Sell a house with higher grade



# Future plans

## For better recommendations

- Are there better indicators for price prediction?
- Test on a subset of zip codes.
- Use polynomial regression.

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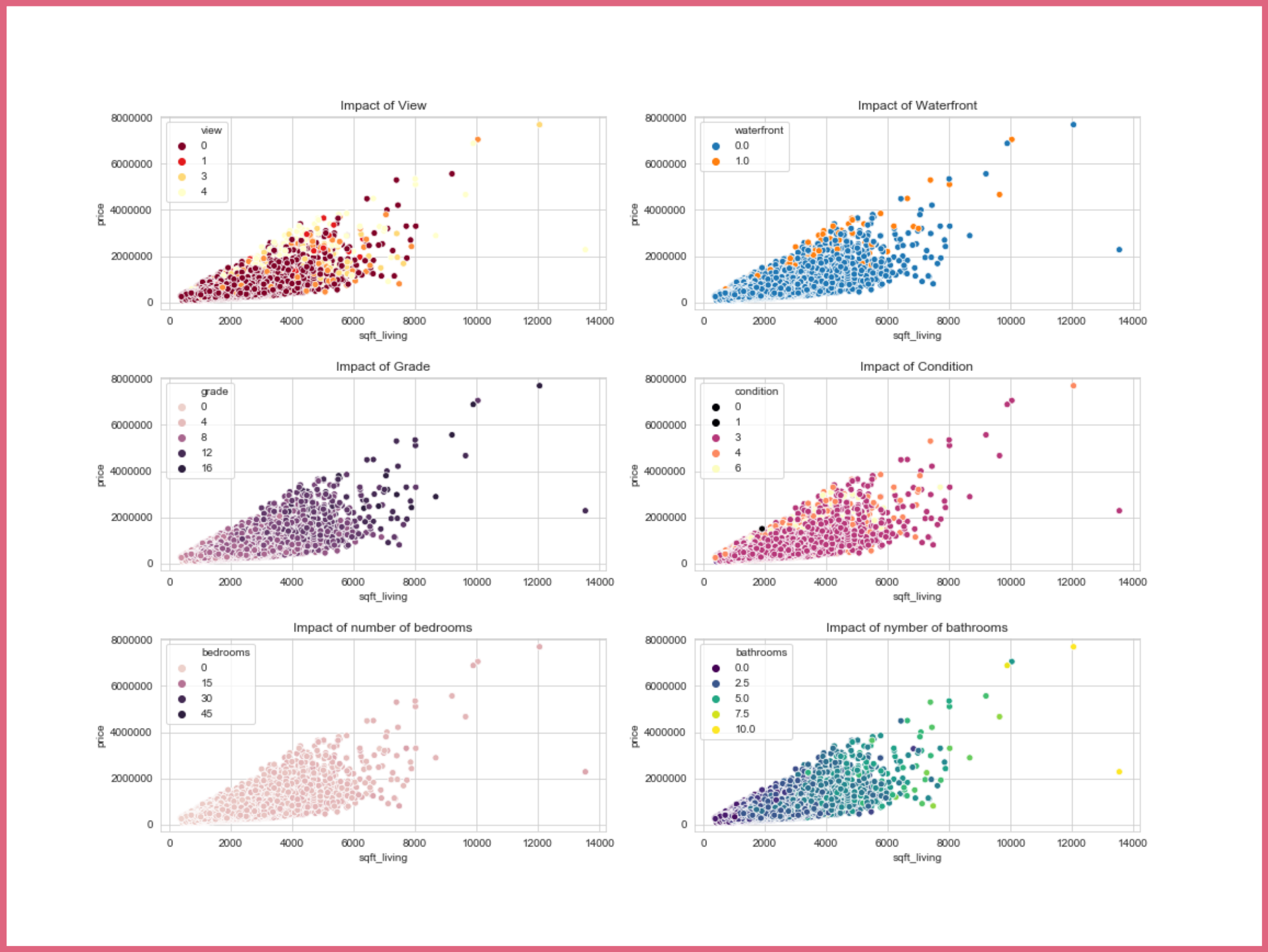
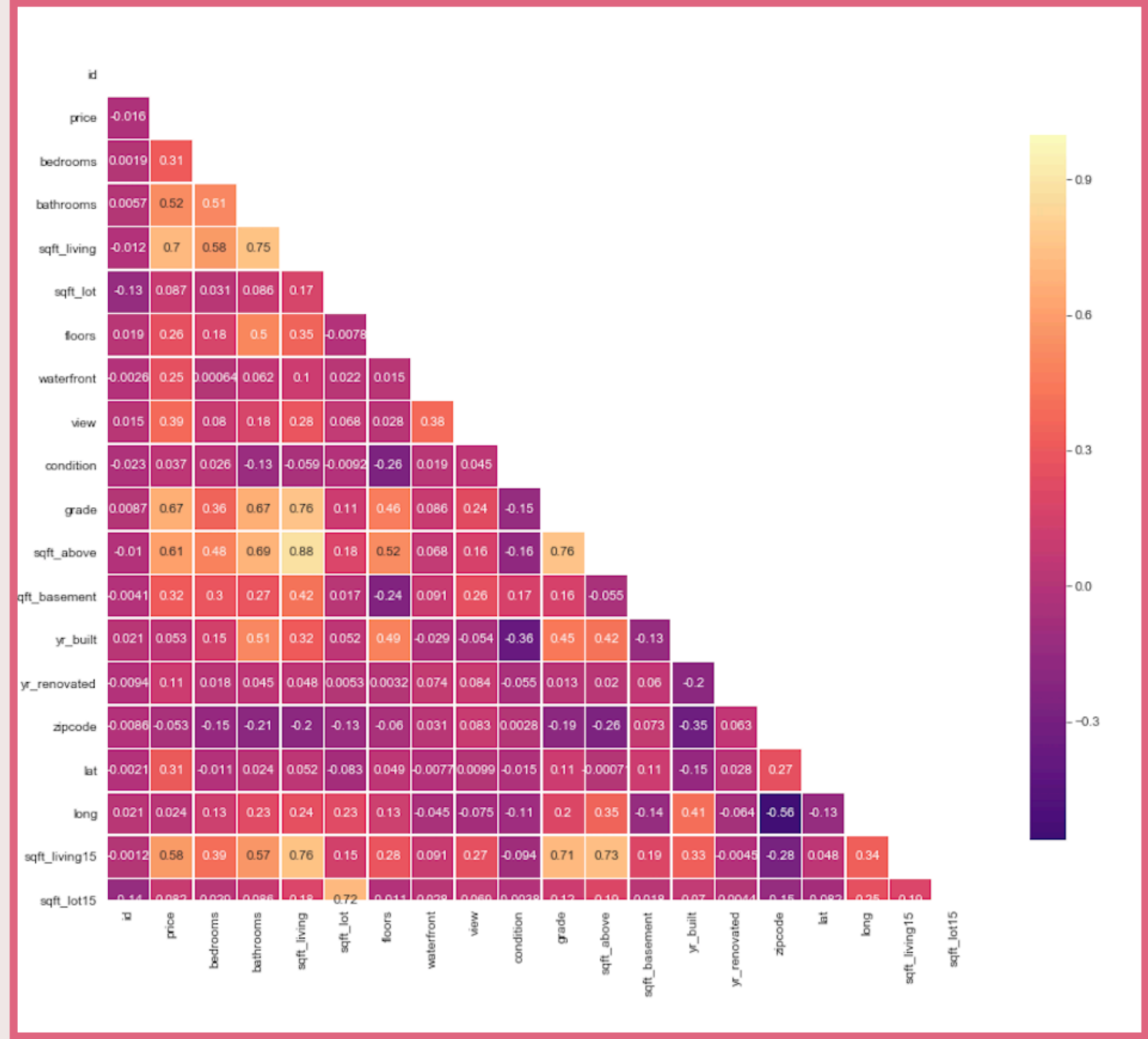


# Thank You.

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# Appendix

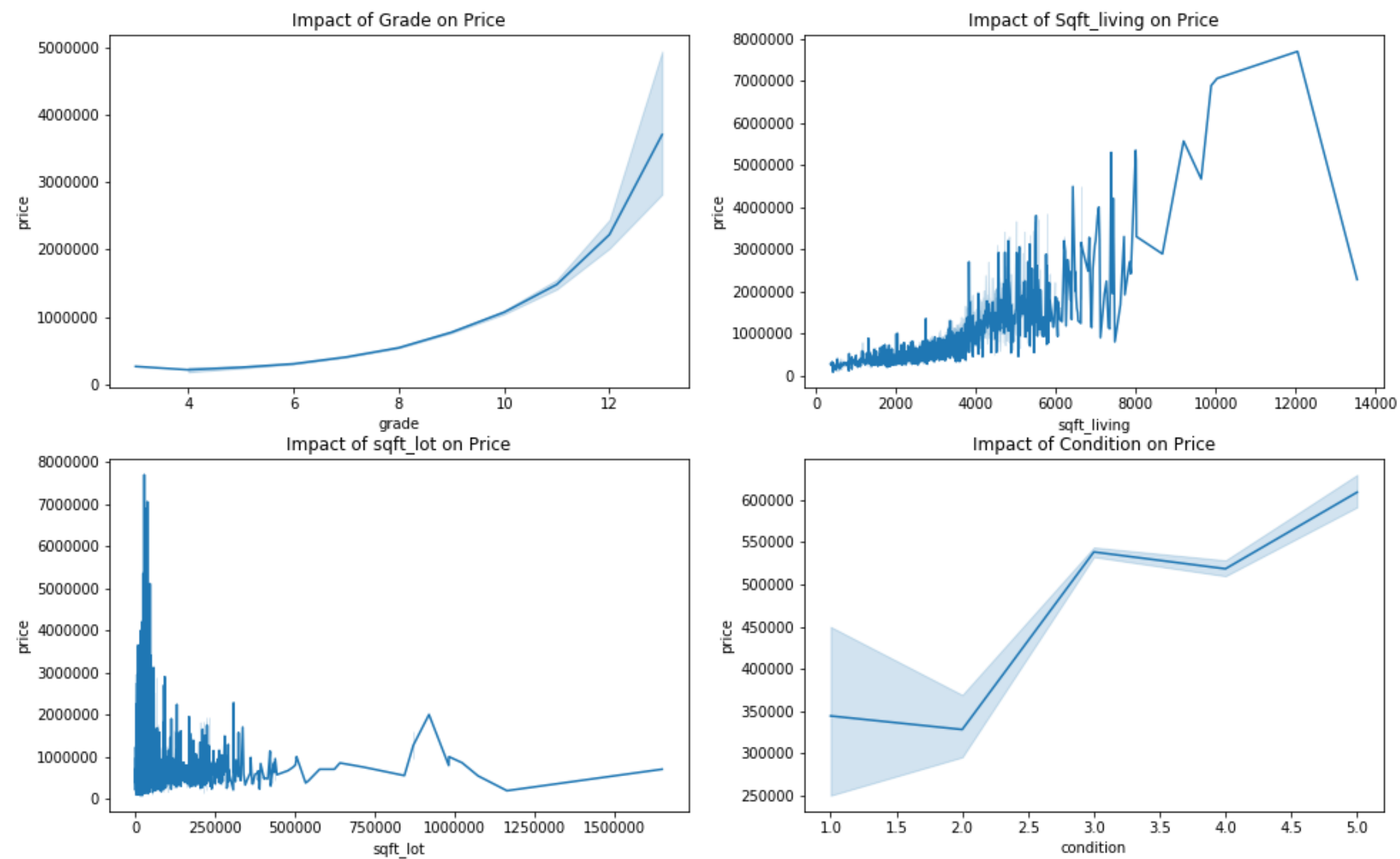
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# Appendix

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# Appendix

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