

Analysis of Home Prices in King County, WA, USA



HELLO!

I am Gabby Amparo

Beginner Data Science
Student at Flatiron School



Business Problem

A property investor is looking to "flip" houses in King County, WA for profit. "Flipping houses" is a term used for the action of buying property (in this case houses) that are in poor to average conditions in a good, well-established neighborhood (most likely in a expensive housing market) for cheap and renovating those houses and selling them for higher than they were bought for in order to make profit. **The property investor wants to know if King County, WA is a good housing market to invest in and flip houses for profit.**



Objectives

- Use data analysis to gain perspective and understanding of the King County housing market
- The information provided will help the stakeholder (property investor) gain the knowledge needed for them to succeed in the King County housing Market



Data Sources

- Kc_house_data.csv
 - A subset of public data provided the King County website
 - "This dataset contains house sale prices for King County, which includes Seattle. It includes homes sold between May 2014 and May 2015."



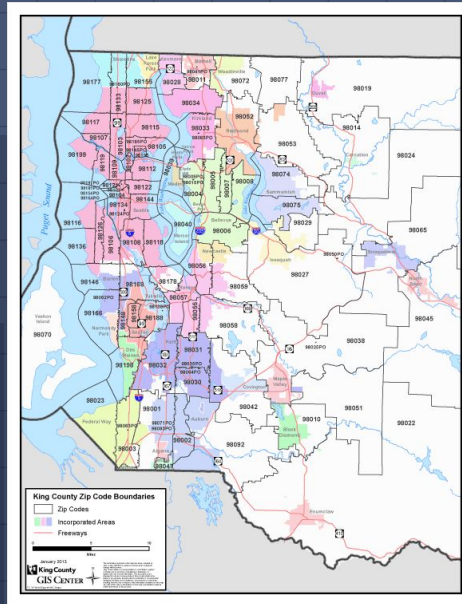
Programs and Libraries

The following software libraries were used within Python to conduct data analysis:

- Numpy – for mathematical computation
- Pandas – allows for data organization & analysis
- Matplotlib – for data visualization
- Seaborn – works with Matplotlib to make clean graphics
- Scikit learn – machine learning
- Statsmodel – statistical modeling

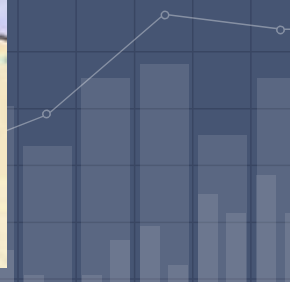


Question 1: Which zipcodes have the highest average home price?



Top 20 Zipcodes according to Average Home Price





Conclusions & Recommendations

Conclusions

- A majority of these zipcodes are near the main city of Seattle, WA.
- This area would be ideal for people who work in Seattle but do not want to live in the city and or people who have families

Recommendations

- I would recommend the property investor to flip houses in these zipcodes so that they can make more profit off of their renovations
- Being close to Seattle is a major attraction to many home buyers since it is most likely where they work or where more job opportunities are available.

Question 2: What Grade of Homes Sell at the Highest Average Price?

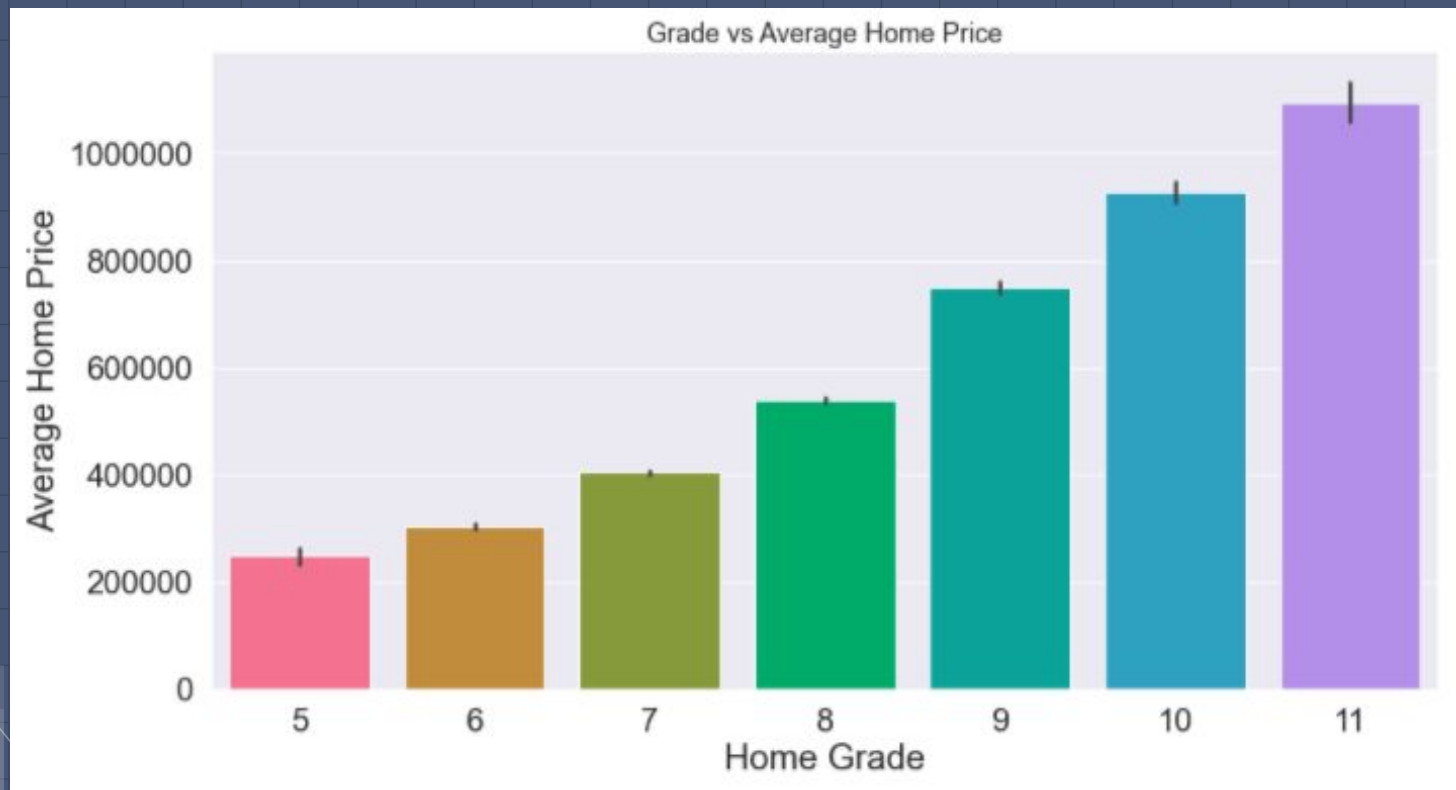
Condition: Relative to Age and Grade

1= Poor	Many repairs needed. Showing serious deterioration.
2= Fair	Some repairs needed immediately. Much deferred maintenance.
3= Average	Depending upon age of improvement; normal amount of upkeep for the age of the home.
4= Good	Condition above the norm for the age of the home. Indicates extra attention and care has been taken to maintain.
5= Very Good	Excellent maintenance and updating on home. Not a total renovation.

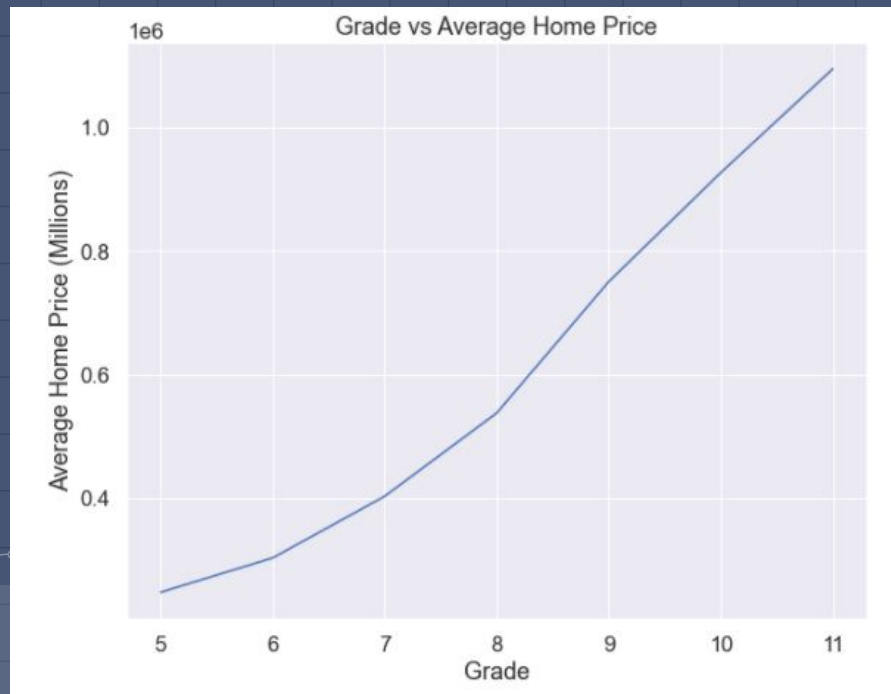
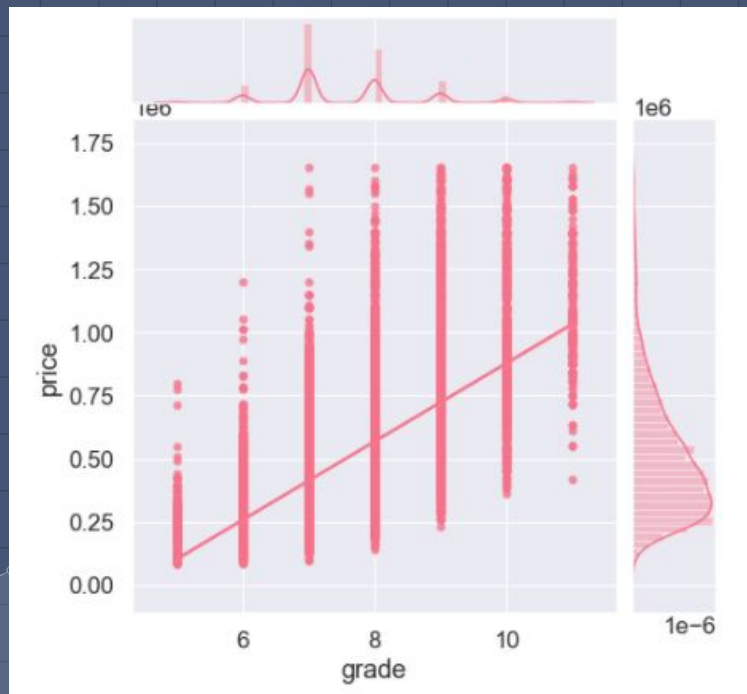
Residential Building Grades

Grades 1 - 3	Falls short of minimum building standards. Normally cabin or inferior structure.
Grade 4	Generally older low quality construction. Does not meet code.
Grade 5	Lower construction costs and workmanship. Small, simple design.
Grade 6	Lowest grade currently meeting building codes. Low quality materials, simple designs.
Grade 7	Average grade of construction and design. Commonly seen in plats and older subdivisions.
Grade 8	Just above average in construction and design. Usually better materials in both the exterior and interior finishes.
Grade 9	Better architectural design, with extra exterior and interior design and quality.
Grade 10	Homes of this quality generally have high quality features. Finish work is better, and more design quality is seen in the floor plans and larger square footage.
Grade 11	Custom design and higher quality finish work, with added amenities of solid woods, bathroom fixtures and more luxurious options.
Grade 12	Custom design and excellent builders. All materials are of the highest quality and all conveniences are present.
Grade 13	Generally custom designed and built. Approaching the Mansion level. Large amount of highest quality cabinet work, wood trim and marble; large entries.

Home Grades and Home Prices



Home Grades and Home Prices



Conclusions & Recommendations

Conclusions

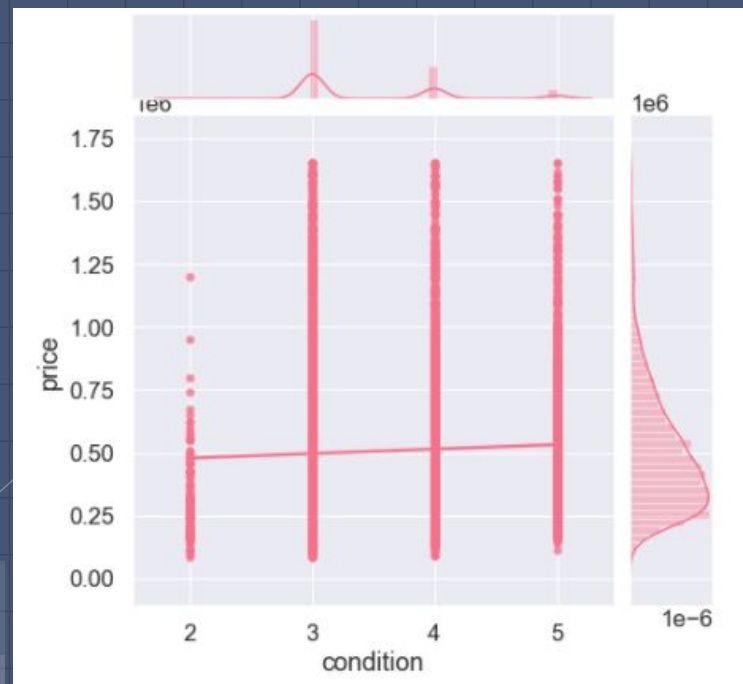
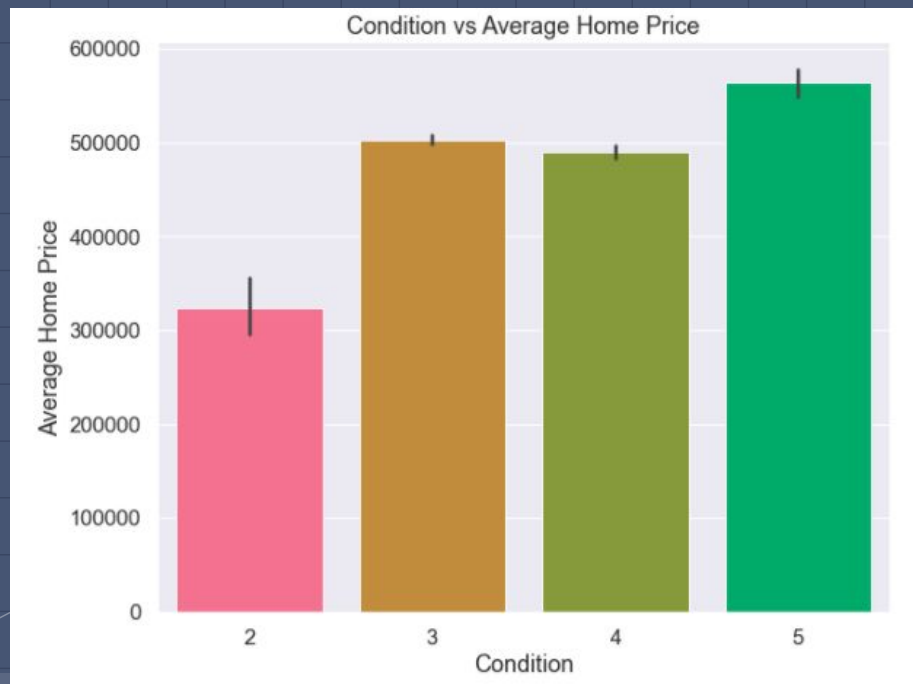
- The graphics show that the price of the houses increases as the grade increases.
- This makes sense since most home buyers are looking to buy homes that have little or no renovation to be done.
- A majority of homes sold in King County were from grades 5-11.

Recommendations

- Do not hold back on construction and renovations
- Home buyers are willing to pay more for a home that is well constructed and higher quality.
- The property investor can cheap out on renovations and create an average house, but they will not see a huge return on investment.

Question 3: What Condition of
Homes Sell at the Highest Price?

Home Condition and Home Price



Conclusions & Recommendations

Conclusions

- The graphics show that there is an increase in home prices when the home condition is higher.
- Most home buyers are looking to buy homes that are in good condition so that they do not have to further renovate or deal with construction issues.

Recommendations

- I would recommend that the property investor flip homes in conditions 2-3 so that they can negotiate a lower price with the seller.
- Renovate the houses to the highest condition (being 5)

Future Work & Insights



Future Work & Insights

- Further data analysis of this and other datasets can determine:
 - Do home buyers pay more for homes that have scenery? (mountain views or waterfront)
 - Do home buyers in King County look for larger homes or smaller homes?
- I would like to look at data from the current housing market of King County, WA since this dataset is from 2014-2015.

THANKS!

Any questions?

You can find me at:

- gabbyamparo97@gmail.com
- [@gabbyamparo](#)