

Project 2 : Ames Housing Data and Kaggle Challenge

Buying a house in Ames, IOWA? This is for you.

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Introduction

Audience

This study aims to aid the property buyers who are interested in area of **Ames**, a city in **Iowa**.

Context

We have gathered some data between 2006 to 2010, it has around 2000 records that contains transaction of sold properties, it includes around 80 features like Year it was built, if it is remodelled, the quality of the property, and neighborhood to name few.

Problem statement

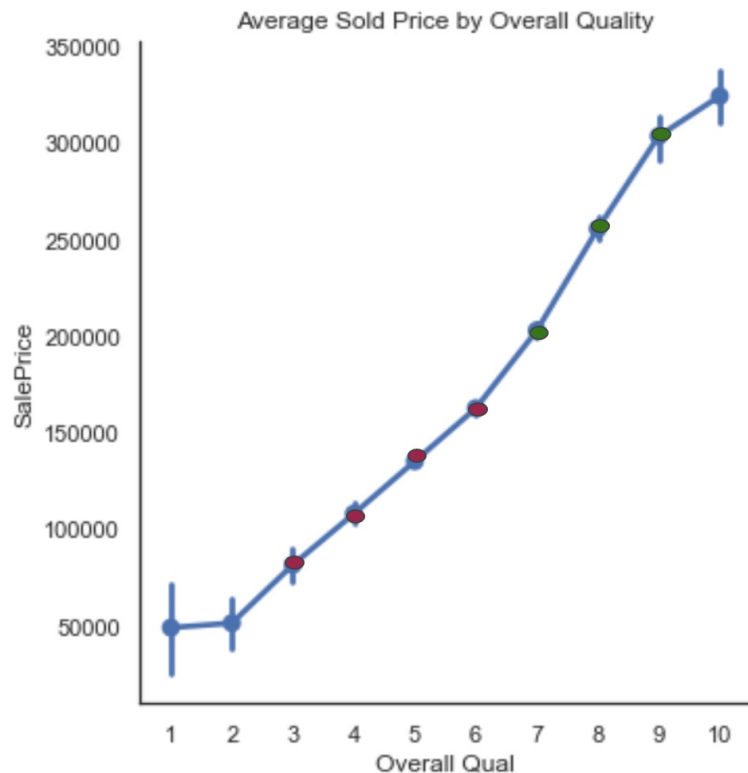
To cater different types of buyers, (1) buyer who wants to maximize their investments, by buying properties that are below average selling price and with acceptable quality, (2) buyers who are willing to pay more with better quality.

What features drives the property price? Is there any neighborhood that have competitive selling price without compromising the quality?



What does data tell us?

Overall Quality Rating



Top 1 feature that statistically has strong correlation with Selling Price is the Overall Quality of the property, from 1 (Very Poor) .. 5 (Average) to 10 (Very Excellent)

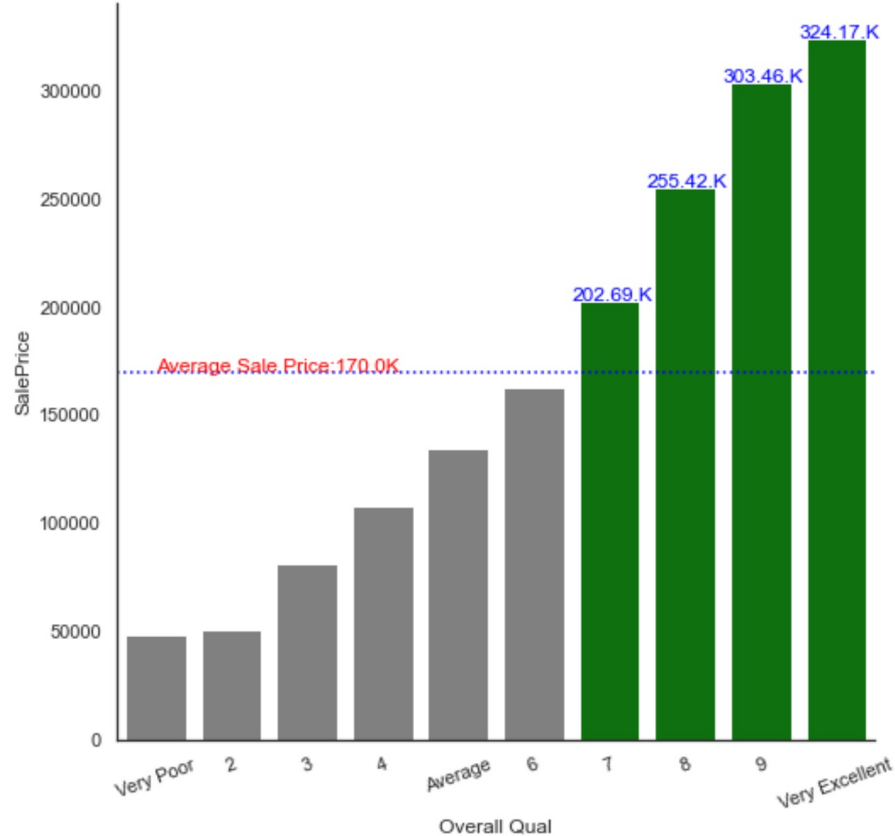
An unit increase of rating between **3-6** is around 26K to 30K increase in Sale Price.

An unit increase of rating between **7-9** is around 40K to 52K increase in Sale Price

The higher the quality, the steeper the price.

Overall Quality Rating

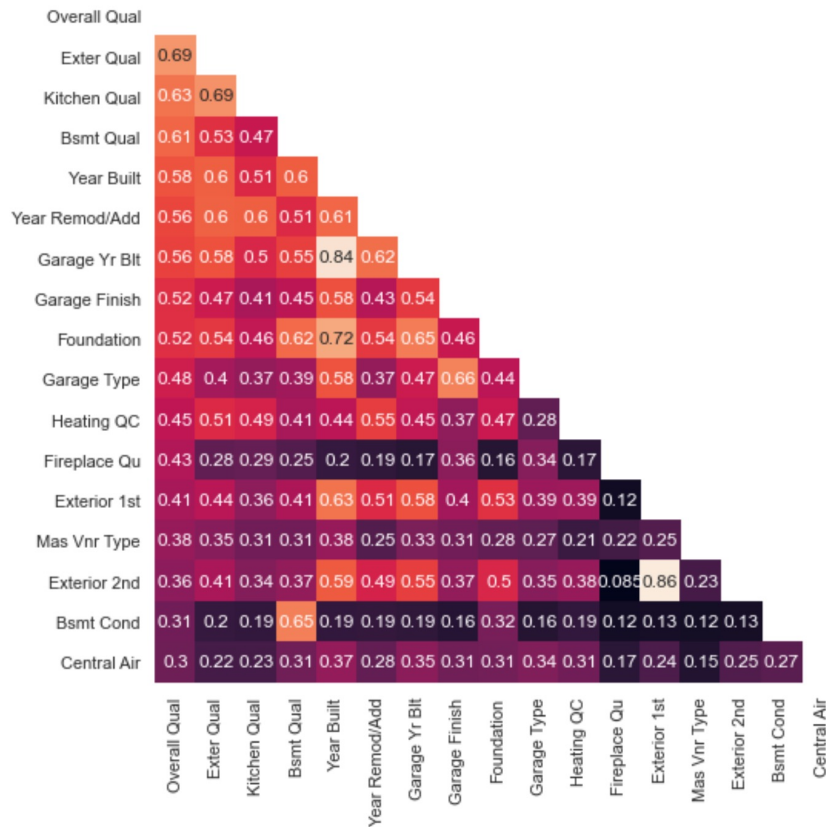
Average Sale Price by Overall Quality



**Very Excellent has more than 90%
than the Average Selling Price**

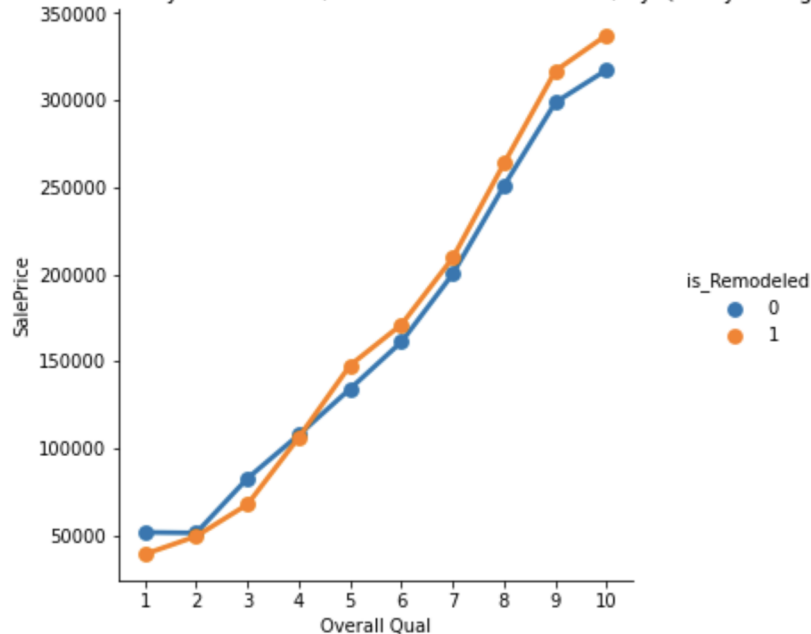
Overall Quality means material and finish quality

Overall Quality rating has correlation with some features like the exterior material quality, kitchen quality, basement quality, the year the property and garage was built or remodeled, foundation of the house, type of garage, heating quality, fireplace quality.



Quality ratings of Remodeled properties

Sale Price for Recently Remodelled (5 Years from the date sold) by Quality Rating



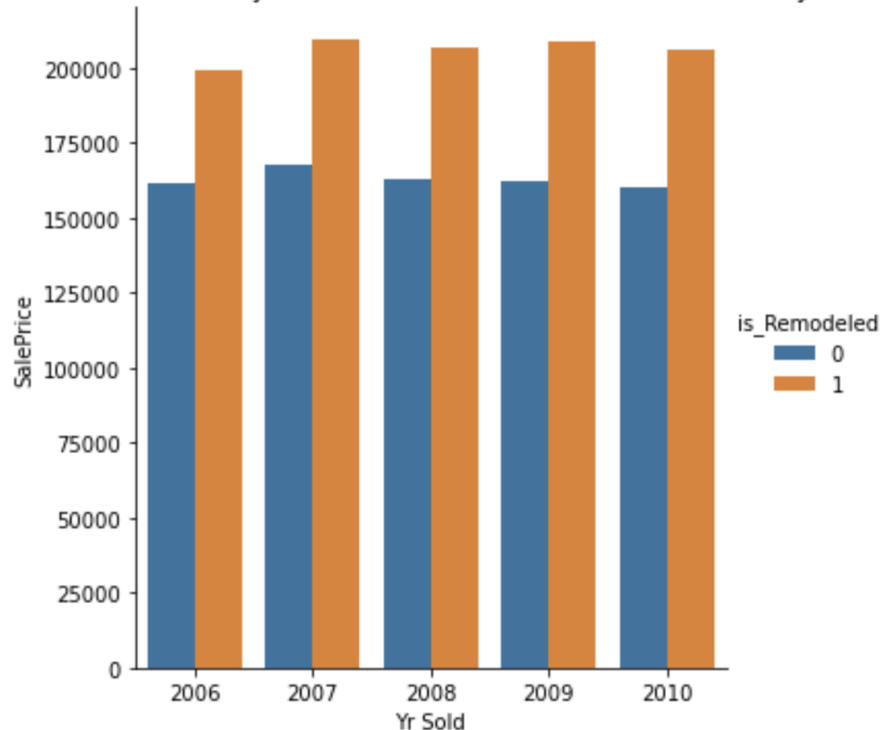
We define **Recently Remodeled** as properties that are remodelled within 5 years before they are sold.

Remodelling in relation to Sale Price:

- There is no significant increase in the Sale Price if the quality is below 5 even if it is remodeled
- With the same quality rating, the property that has been recently remodeled still shows a higher price.

Year on Year Comparison for Remodeled properties

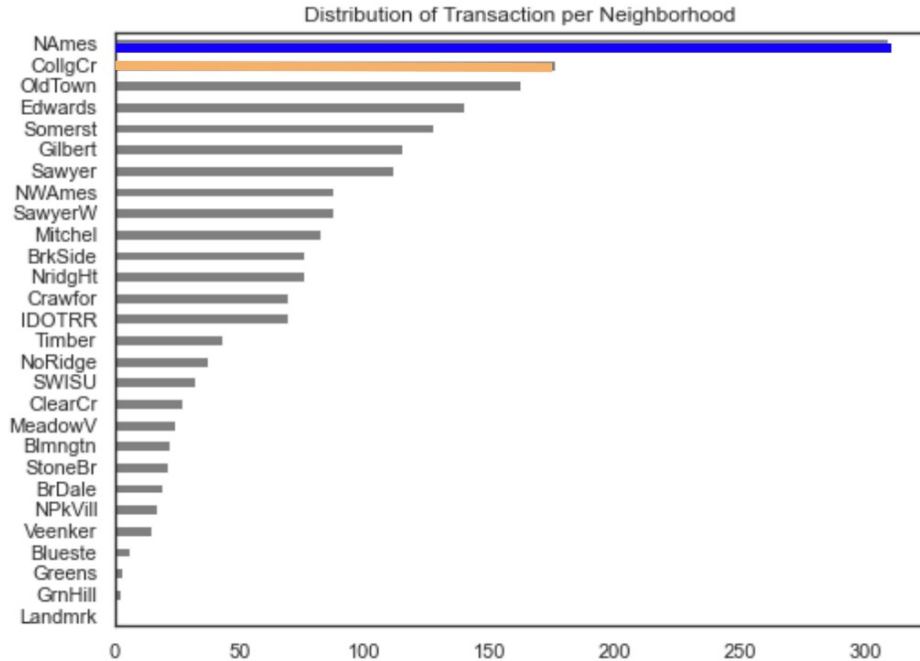
Sale Price for Recently Remodelled (5 Years from the date sold) by Year



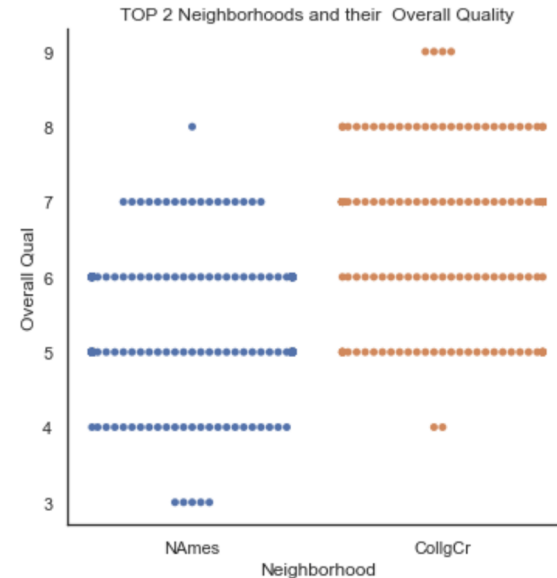
Year over year comparison, the average selling price of recently remodelled properties are higher than those that are not remodeled (or remodeled but older than 5 years)

The increase of Average Selling Price is around 23% to 29%

The Neighborhood..



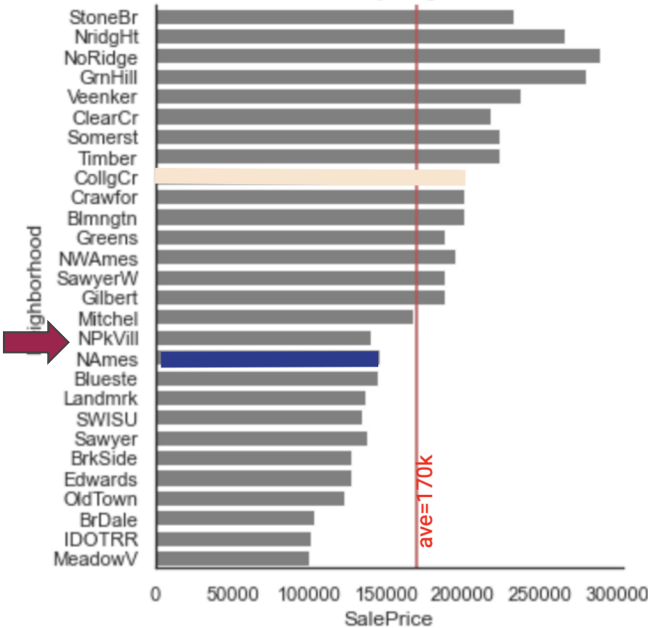
NAmes and **CollgCr** are top 2 neighborhoods that have most numbers of sold properties over 4 years. **CollgCr** has better quality rating than **NAmes**.



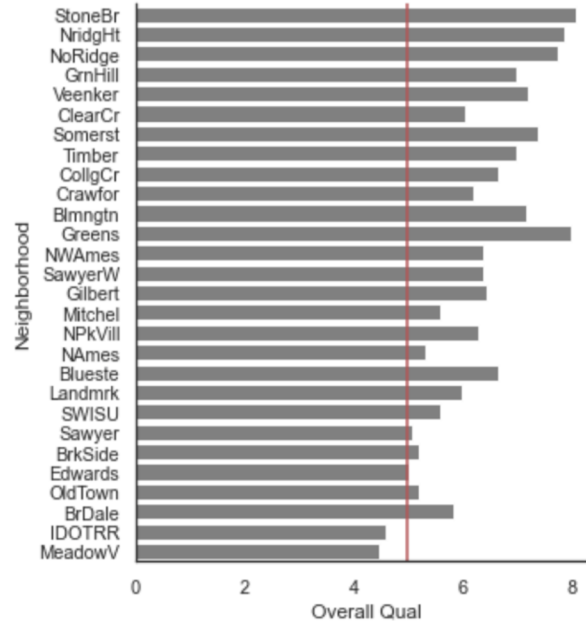
Sale Price and Quality Rating by Neighborhood

NAmes SalePrice is below the average Selling Price, **COLlgCR** is slightly above (since the quality rating is higher too)

Sale Price by Neighborhood



Average Quality Rating by Neighborhood



For those who are in tight budget but doesn't want to compromise the quality, we can look at the bottom neighborhood, from NPKvill to BrDale, the selling price is below the average, and the quality rating is above 5.



Summary and Recommendation

Summary:

Overall Quality is the feature that has the most significant impact on the Sale Price.

Recommendation:

For those who's budget are below average, and yet looking for a good quality properties, they can check these 10 neighborhoods, *NPkVill, NAmes, Blueste, Landmrk, SWISU, SawyerW, BrDale, BrkSide, Edwards and OldTown*, the properties were sold below average and still can choose a better range of quality properties.

You can also save some money by choosing properties that are not remodeled, and yet the quality rating is the same.

Limitation and Considerations:

We don't have latest data that supports the price are within the same range. Some analysis are general, would the result be the same for all years (e.g. economic crisis in 2008)?

Thank you!