

# Renovations and House Value

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How to renovate to increase house value

# Overview

**Objective:** Find out how home renovations influence market price of the house

**Steps:**

- Analyse data
- Discover correlations between price and characteristics of the house
- Single out three most influential characteristics
- Provide recommendations to increase predicted house value efficiently

# Business Problem

**Question: What can homeowners do to increase the value of their houses for selling?**

- **What are some reliable predictors of house price?**
- **To what extent do these factors influence the price?**
- **What are things homeowners can feasibly do to improve their house value?**

# Data

Housing data from King County

Characteristics subject to analysis include:

- Building grade
- Building condition
- Living area
- Whether there is a waterfront
- Number of rooms (bedrooms & bathrooms)

# Methods

## Multi-variable Linear Regression

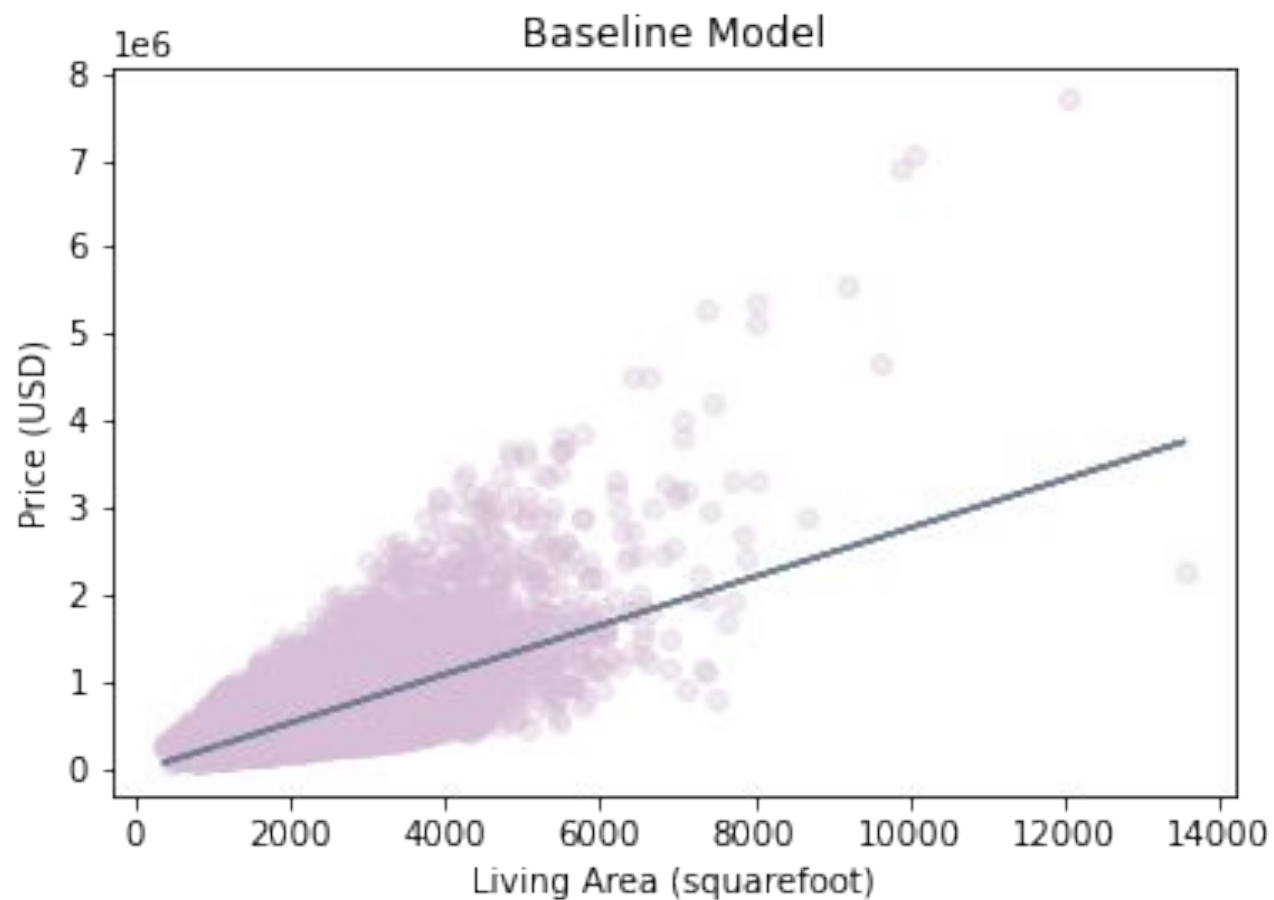
- Defines the linear relationship between the price and the variables
- Identifies the contribution to the price for each respective variable
- Tells us how the price increases on average as the variables increases

## Strategy:

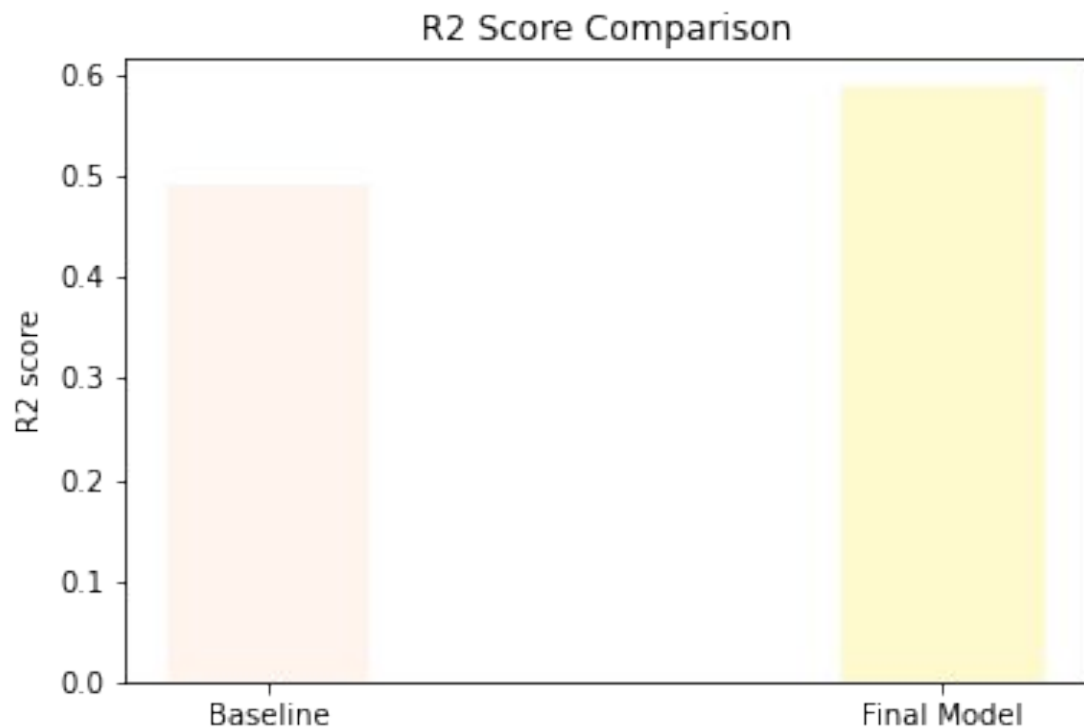
- Compare different ways to model and use the best-performing one

## Metric:

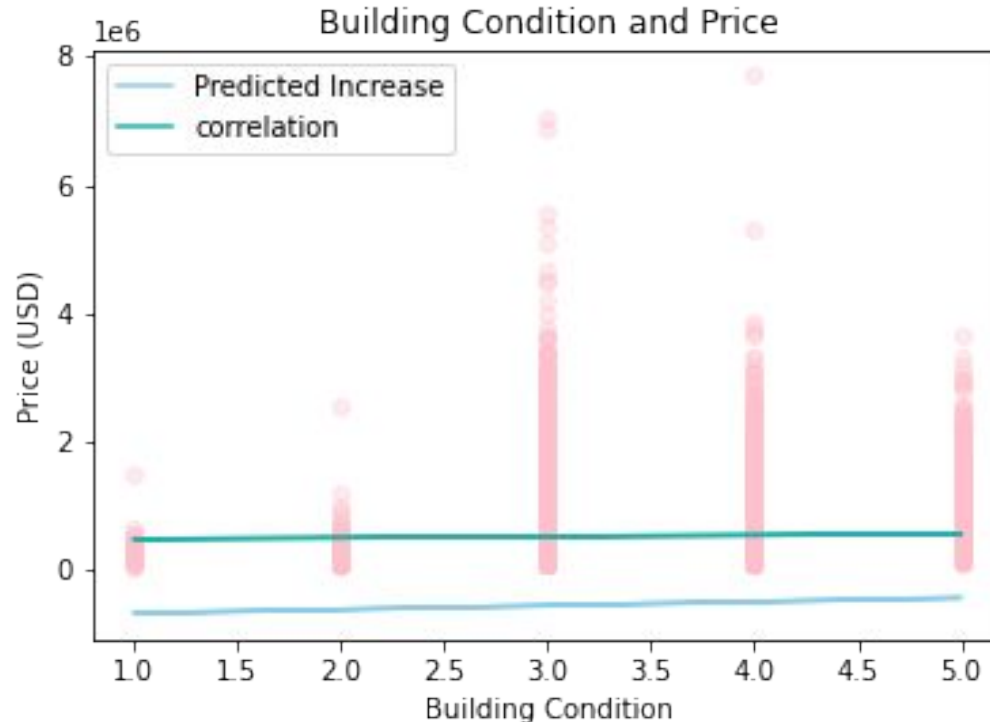
- R-squared value (measures how accurately the model predicts the real data values)



# Results

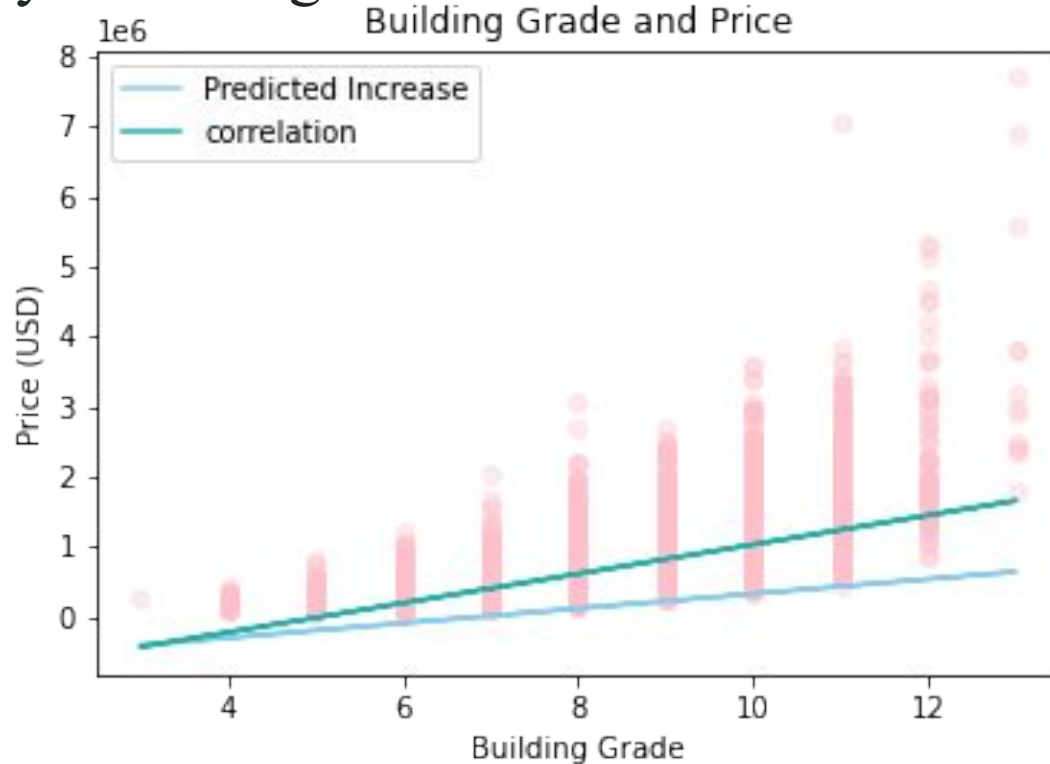


For every unit increase in building condition (scaled 1-10), the price increases by an average of 59472.8 dollars

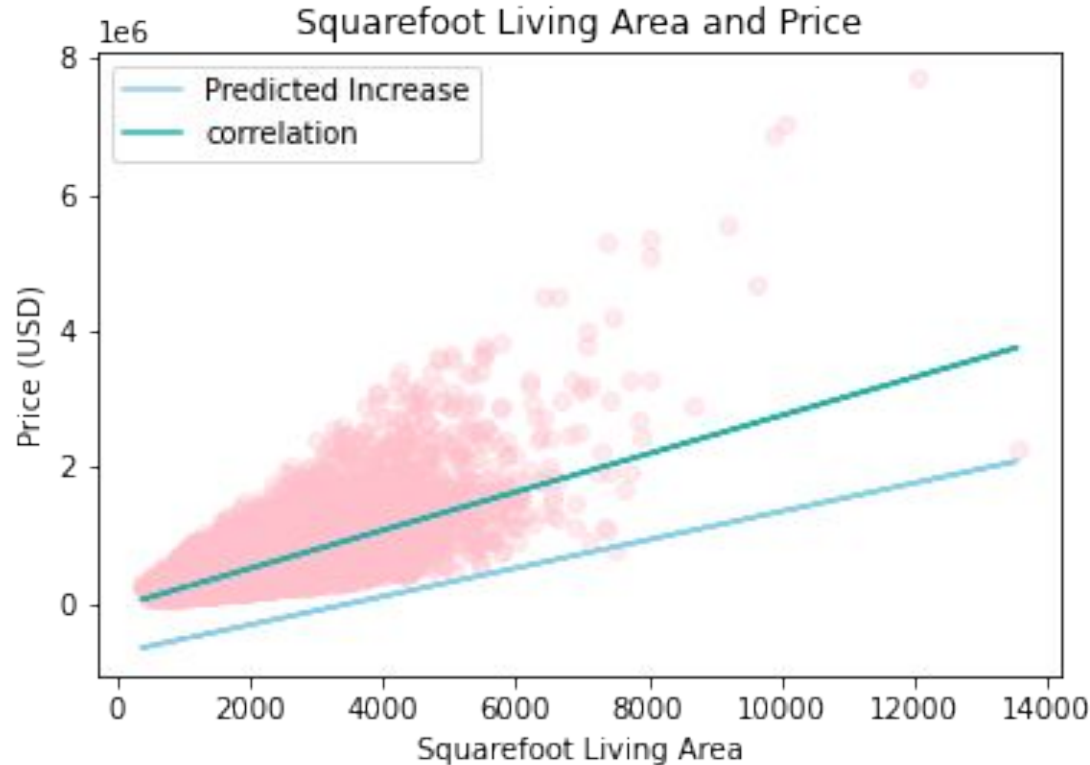




For every unit increase in building grade (scaled 1-5), the price increases by an average of 106323.2 dollars



For every squarefoot increase in living area, the price increases by an average of 208.3 dollars.



# Recommendations

## **1. improve building condition**

Building condition has to do with the maintenance of the house, when doing renovations, aim to increasing the life expectancy of the house upgrading old or deteriorating structures.\

## **2. improve building grade**

Building grade is related to the architecture/ design of the house, both interior and exterior. This includes the aesthetic of the architecture, and the quality of the material used in the building. The basic requirement is to meet the building code, and the grade can be further increased by including custom designs and added amenities

## **3. increase living area**

Living area is the area of the house excluding the walls. When renovating, living area could be increased by removing walls or adding extra rooms.

# Caveats and Next Steps

- There are outliers that cannot be fully explained with this model
- Looking into other variables not included in this analysis could be helpful for yielding more accurate predictions

# Thank You!

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