# Hello Homes Expansion Project: Builders Edition

By Monique Hercules

# Summary

Our stakeholder is a local real estate agency that help homeowners buy/sell homes. After years in the industry they have decided to expand to include the building and flipping  of homes as well to better meet there consumer needs and increase revenue.

Today we will use multiple linear regression models to analyze house sales in the Washington state King county area.

# Outline

- Business Problem
- The Data
- Methods
- Modeling
- Results
- Conclusion
- Next Steps

# 1. Business Problem

- Hello Homes would like to find out what types of homes they would need to build based off of there past sales to meet there consumers needs and increase revenue,
- Targeting :

  the most popular price ranges,
  sqft living
  accommodation preferences like bathrooms, bedrooms and number of floors.

## Data

The dataset in use will be from King County in Washington State.

# 2.Methods

Chose multiple linear regression to accurately study the narrative between the various aspects of a home and how they influence the price.This method will allow for manual manipulations to individual variables and how they affect the price. Before analyzing the data for Hello Homes to begin modeling the data was first prepared in with various methods:.

- ➔ **Data Cleaning**
- ➔ **Verifying Assumptions for Linear Regression**
- ➔ **Preprocessing**
- ➔ **Modeling**

# 3. Results

Decided to use model 3 to draw results from:

***The relationship between price and the various aspects of a house explains 44% of the variation in the data.***

➔ **SQFT**

The ideal price per sqft living  being around $94, for every additional sqft of a home the price will increase on average by $94

➔ **Conditions**

Homes that had conditions fair degrades price range by $35,000 while homes with condition very good increase home prices by $70,000 and homes with the condition good increases the price by $25,000

➔ **Floors**

Lofts, townhouses and three stories homes are the most profitable with lofts being the best by increasing the price by $77,000. Avoid two story homes which  degraded the price of a home by 20,000

# Condition Status

## Fair

Brings down home value by
$35,000

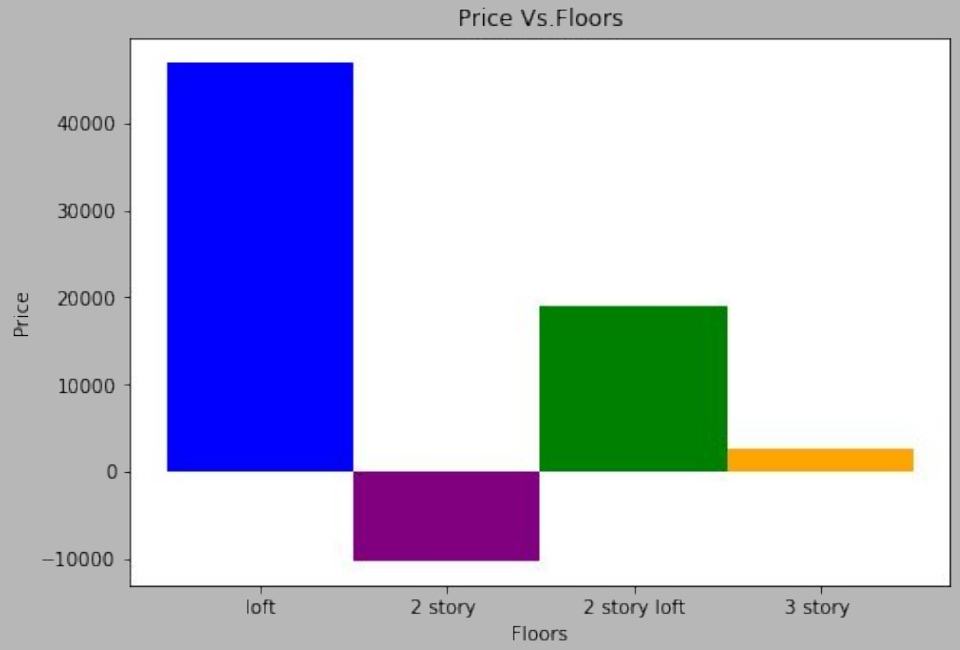
## Very Good

Increases home value by
$70,000

## Good

Increases home value by
$25,000

# Modeling Results




**Floors on a home price range on average:**

-Lofts increase home price by $77,000
-2 Story decrease home price by $20,000
-2 Story Lofts increase home price by $44,000
-3 Story increase home price by $34,000

# Conclusion

Target price per a sqft at $94

All houses flipped/made need to meet the condition good to ensure the best price value.

Focus on townhomes and 3 story homes while avoiding 2 story homes but lofts are the best value.

*Recommendations*

# 3. Next Steps - Considerations

Based on Model 3

➔ **Limitations**

The model is on the weaker side with a R-squared value of 0.440, preferable we would have a model with a higher R-squared conveying a large percentage of accountability for price vs the various aspects of a home.

➔ **Limited Data**

More aspects of a home should be explored to be a able to convey a more diverse model.

# THE END

email : moniquehercules101@gmail.com

Github @moniquehercules

LinkedIn LinkedIn/in/moniquehercules