PHASE 2 PROJECT PRESENTATION

KINGS COUNTY HOUSE SALE MODEL

- Student name: JARED KIPLETING BORE

- Student pace: PART TIME

- Scheduled project review date/time: 15/12/2022

- Instructor name: NOAH KANDIE/ ASHA DEEN

Business background

▶ Kings County Housing Authority provides rental housing and assistance to more than 55,000 people. This quality, affordable housing supports health and self☐ sufficiency.

▶ serves to provide innovative, effective, and equitable housing solutions so that all people and communities can prosper. Their vision is that all residents of King County have quality affordable housing

▶ KCHA owns 137 properties with 11,582 units including 4,284 units of subsidized housing for families, the elderly, and disabled people.

Business Problem

- Predicting the sale price of properties is always important and often a challenging problem. We want to build a model that can determine the prices of a given house according to a number of features. We will use a subset of the data for training and the remaining for testing our modeling.
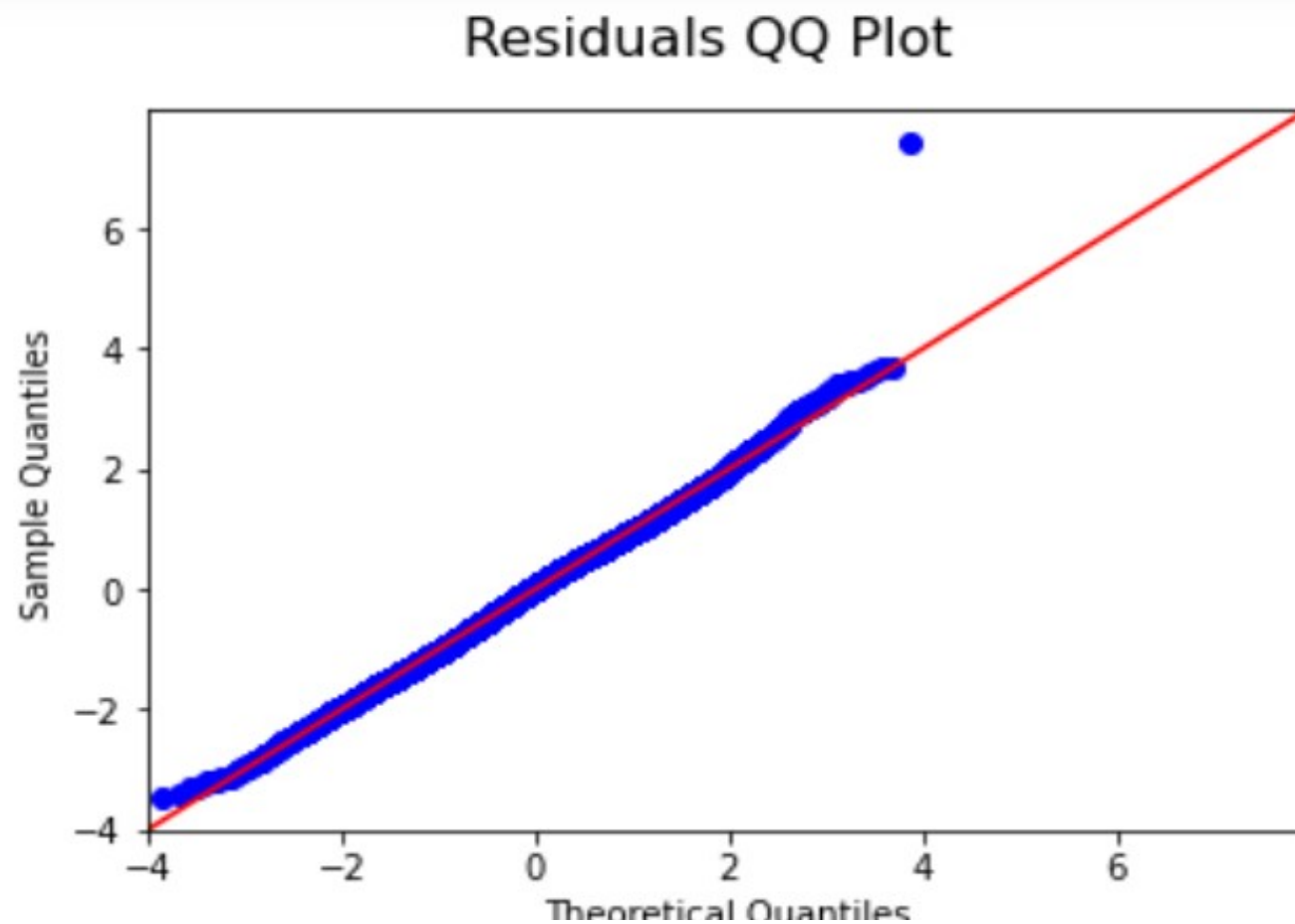
Solution

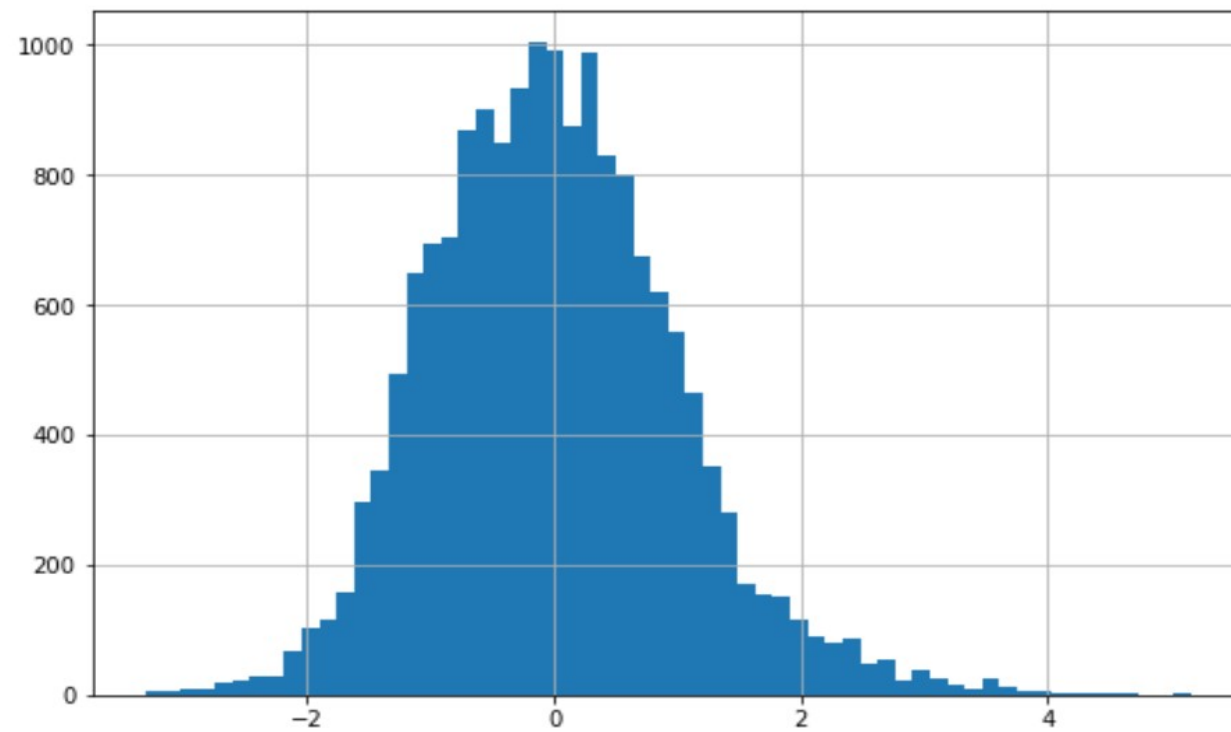- Different features have an impact on the pricing of houses

Assumption on linearity
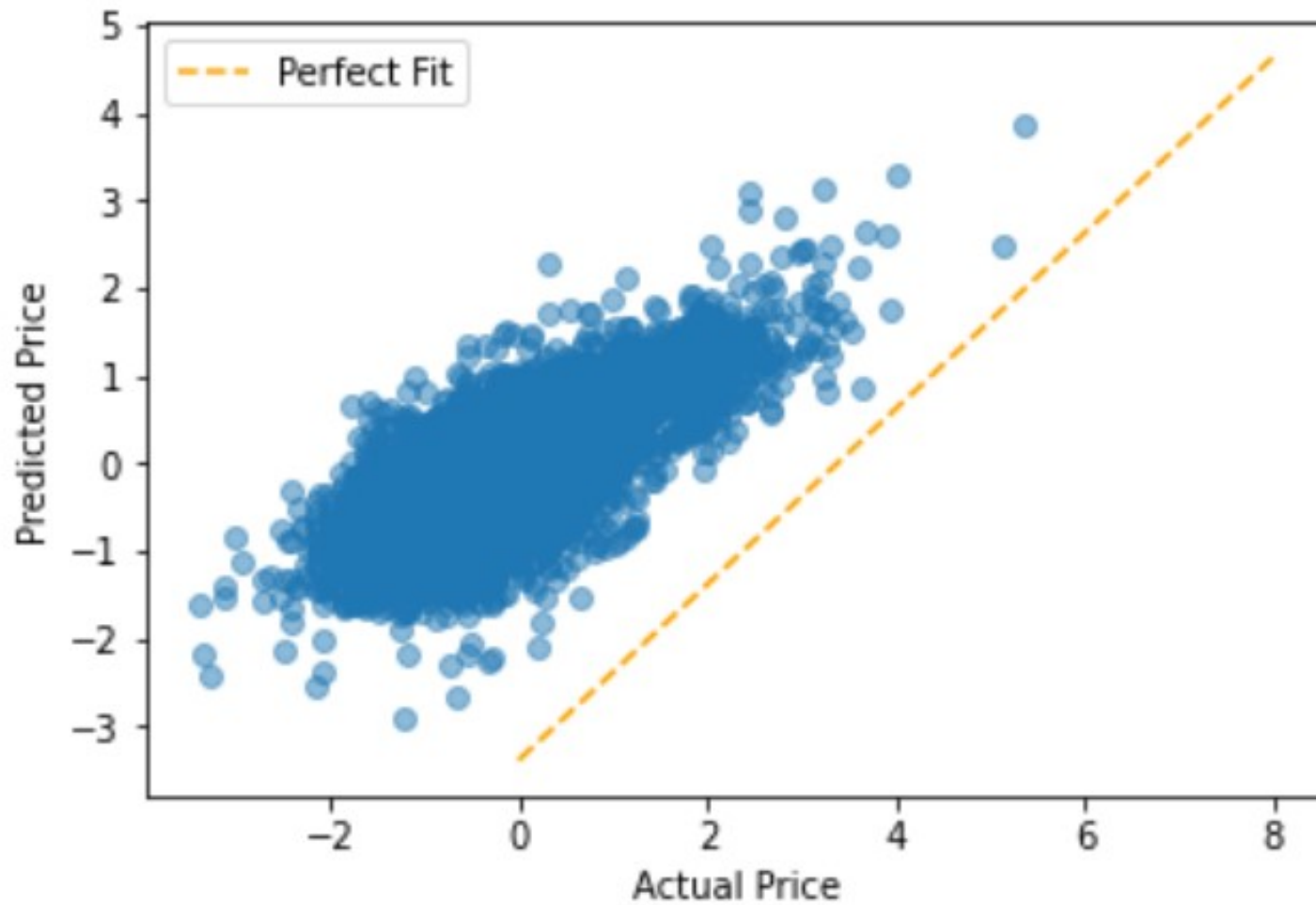
Assumption on normality

Residuals QQ Plot

normalized price distribution after scaling

Technologies used

- Data mining
- Data understanding
- Data cleaning
- Data visualization
- Modeling
- Analysis

Conclusion

▶ This project was driven by the need to understand how different features influence the price of houses. We investigated the price of houses with varied features. We found that as the amenities increased the price also increased. We observed houses in King County were priced high for providing people with special amenities like the waterfront.

Recommendations

- The top features to determine the value of houses are:

- Grade: overall grade given to the housing unit, based on King County grading system According to King County Residential Glossary of Terms, classification by construction quality which refers to the types of materials used and the quality of workmanship. Buildings of better quality (higher grade) cost more to build per unit of measure and command higher value.

- The higher grade means the better quality of the house, while the quality of house is the most important factor when determining the value of homes. If the house has a high grade, the sales price is also decent.

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- The square footage of the lot is another key feature when determining the value of house. Based on our model, the larger size of the lot will lead to a higher sales price. Home buyers often prefer properties that allow for easy indoor-outdoor living and provide level areas for children, pets and gardening.

- However, interestingly, the large size of the lot for its nearest 15 neighbors will draw down the sales price. It might because the property tax is assessed on the lot size of the house and its neighbors. Too large lotsize might lead to higher property tax.

- Waterfront: whether the house has a view to a waterfront

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▶ Square footage of the house and its nearest 15 neighbors

▶ The square footage of the living area is the second most important feature when determining the sales price. The larger space of living area, the higher sales price of the house. Also, people will consider the average living space in the neighborhood.

▶ Square footage of lot and its nearest 15 neighbors