PREDICTION PROJECT – RESIDENTIAL REAL ESTATE VALUES IN KING COUNTY (SEATTLE, WA)

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OVERVIEW

▸ The data comprised 20 data points on 21,597 sales of residential real estate in King County (Seattle, Washington) from May 2014 to May 2015.

▸ The goal was to predict what price a home would sell for using the given data points.

▸ The following six variables were found to be the most useful in predicting the sale price:

  ▸ sqft_living - the total square feet of livable space

  ▸ bedrooms - the number of bedrooms

  ▸ floors - the number of floors

  ▸ view - the number of times the house had been viewed by interested buyers

  ▸ condition - a ranking from 1 to 5 for the condition of the house

  ▸ lat - the latitude of the home (a higher value represents a more northern location)

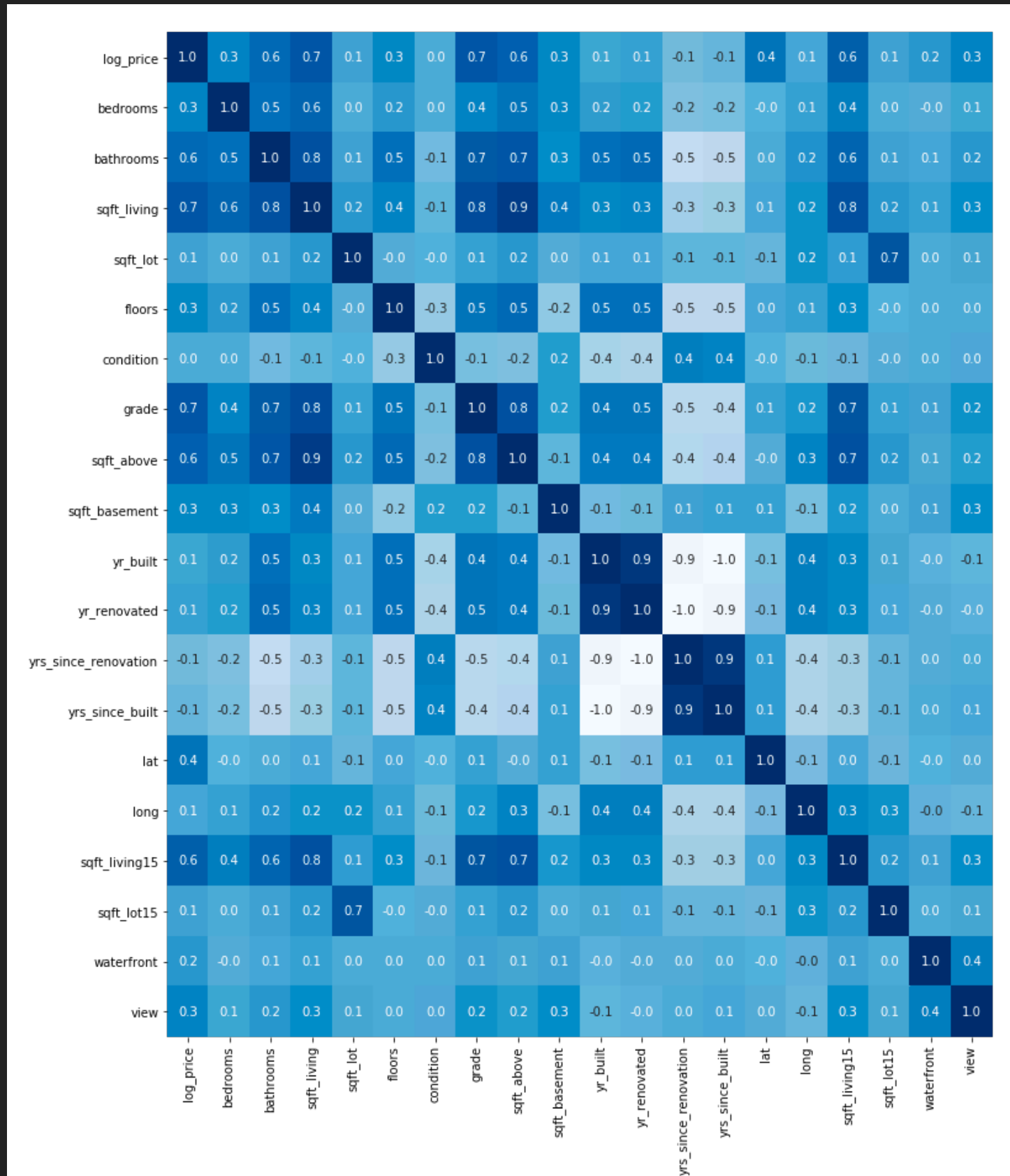▸ The final model has an accuracy of 69.4% for predicting the house sales price.

CHALLENGES WITH THE DATA

▸ Some of records (a record = a sale of a home) had missing values for some variables. For example, over 10% or the records did not have a value for the "waterfront" variable. Waterfront is a true/false variable for if the home has a view of a waterfront. A waterfront view was not significantly correlated with price so these missing values were not an issue.

▸ In another instance, data was missing from 63 records. Because 63 is a very small percentage of the total records, these records not used in creating the prediction model.
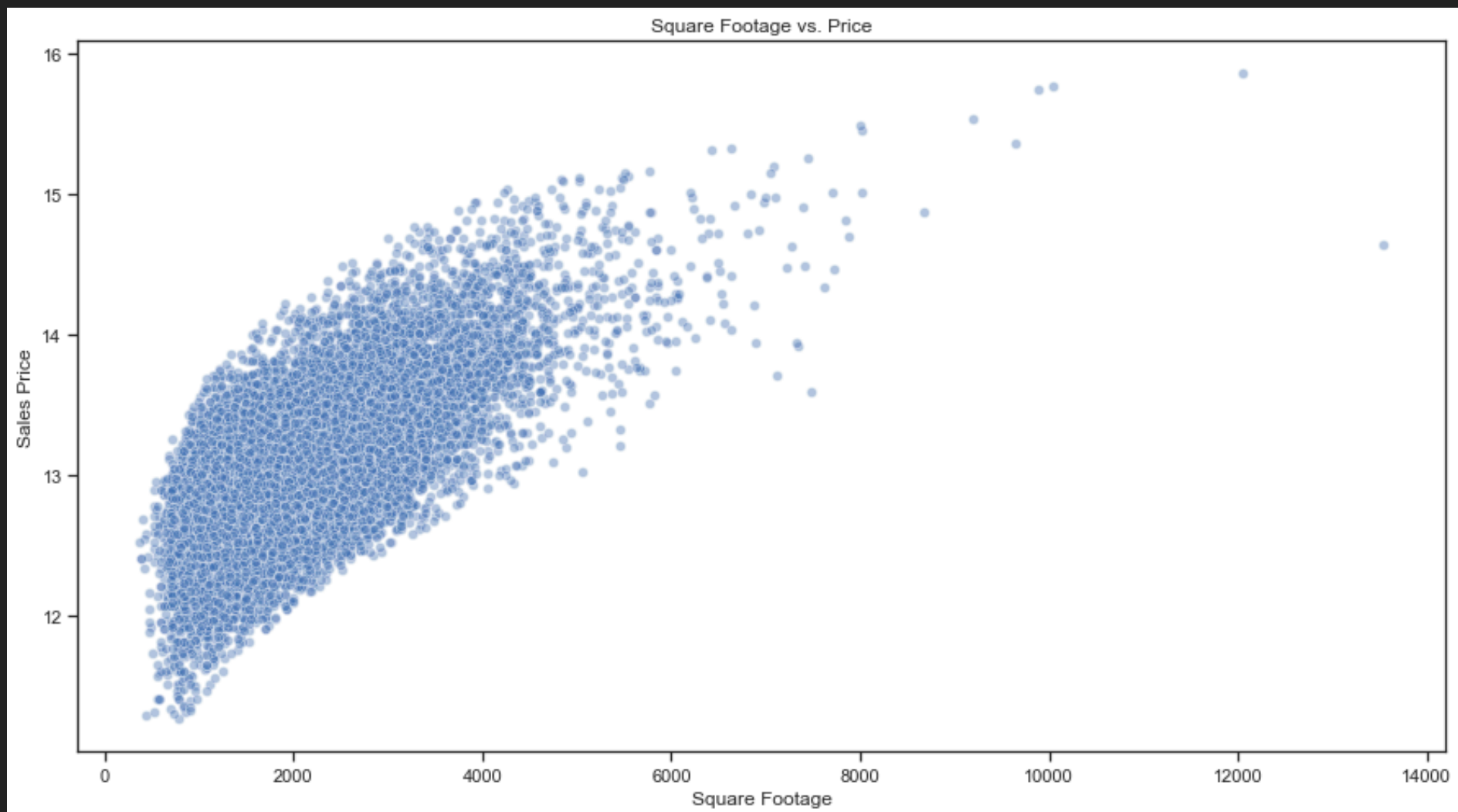
DATA EXPLORATION

‣ This heat map shows the relationship between 20 variables. A darker shade indicates a higher correlation.

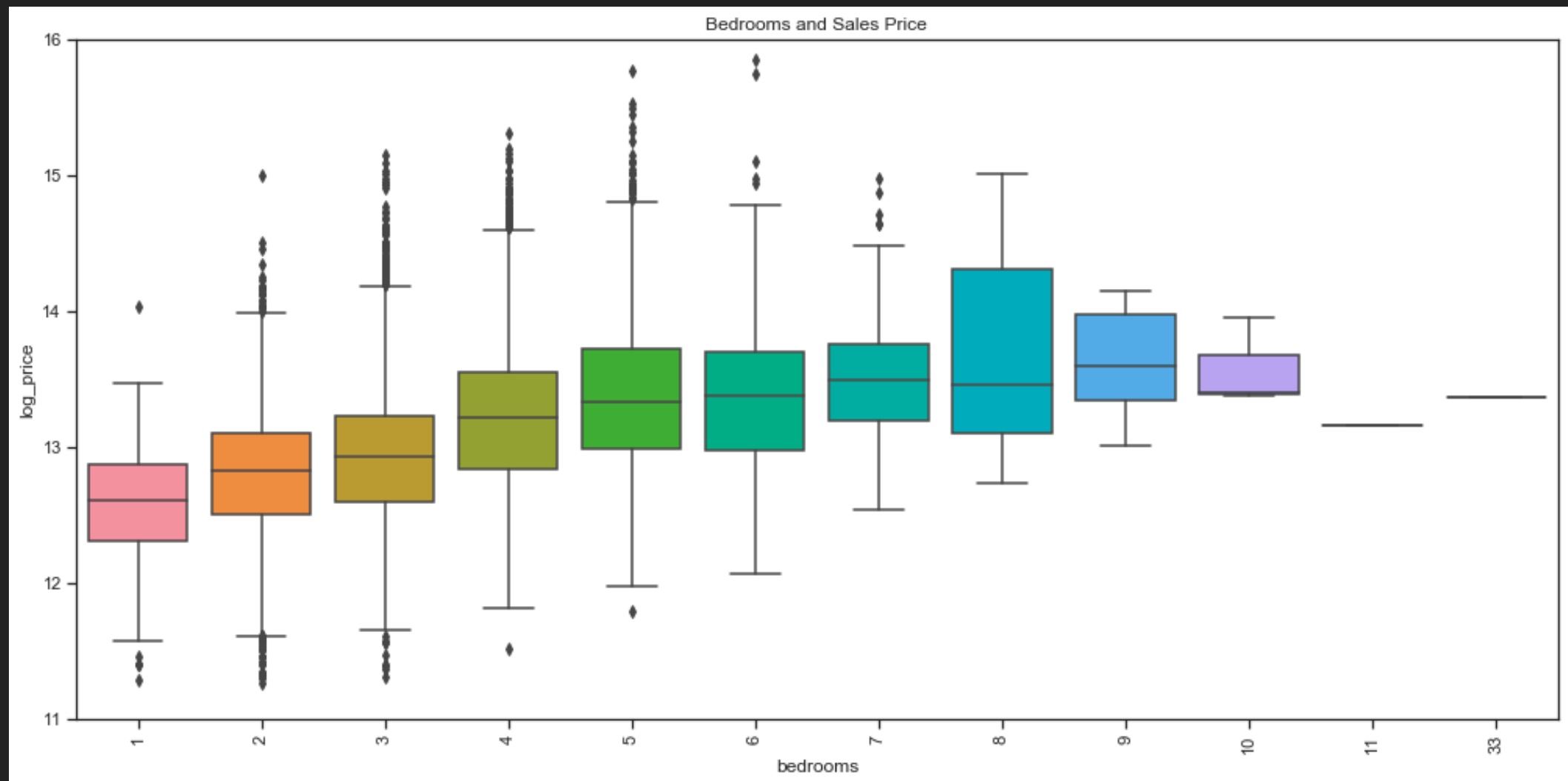‣ Heatmaps are useful to quickly explore relationships between multiple variables.

SQUARE FOOTAGE

▸ Each dot represents a house sale and is placed where its square footage (horizontal axis) and sales price (vertical axis) intersect. Darker areas indicated overlapping sales. Larger homes command higher prices.

BEDROOMS

▸ Each colored bar represents the middle 50% of sales prices for house with the number of bedrooms shown on the horizontal axis. As the number of bedrooms increase (towards the right side), the sales prices tend to increase. More bedrooms = higher prices, particularly when looking at homes with 1 to 5 bedrooms.

RECOMMENDATIONS – WHAT CAN BE DONE TO INCREASE THE SALES PRICE

1. Condition - It is not surprising that houses in better condition command higher prices. Improving a buyer's perception of a home's condition will likely result in a higher sales price.

2. Square footage - Increasing square footage (which typically would include additional bedrooms and/or bathrooms) will likely result in a higher sales price.