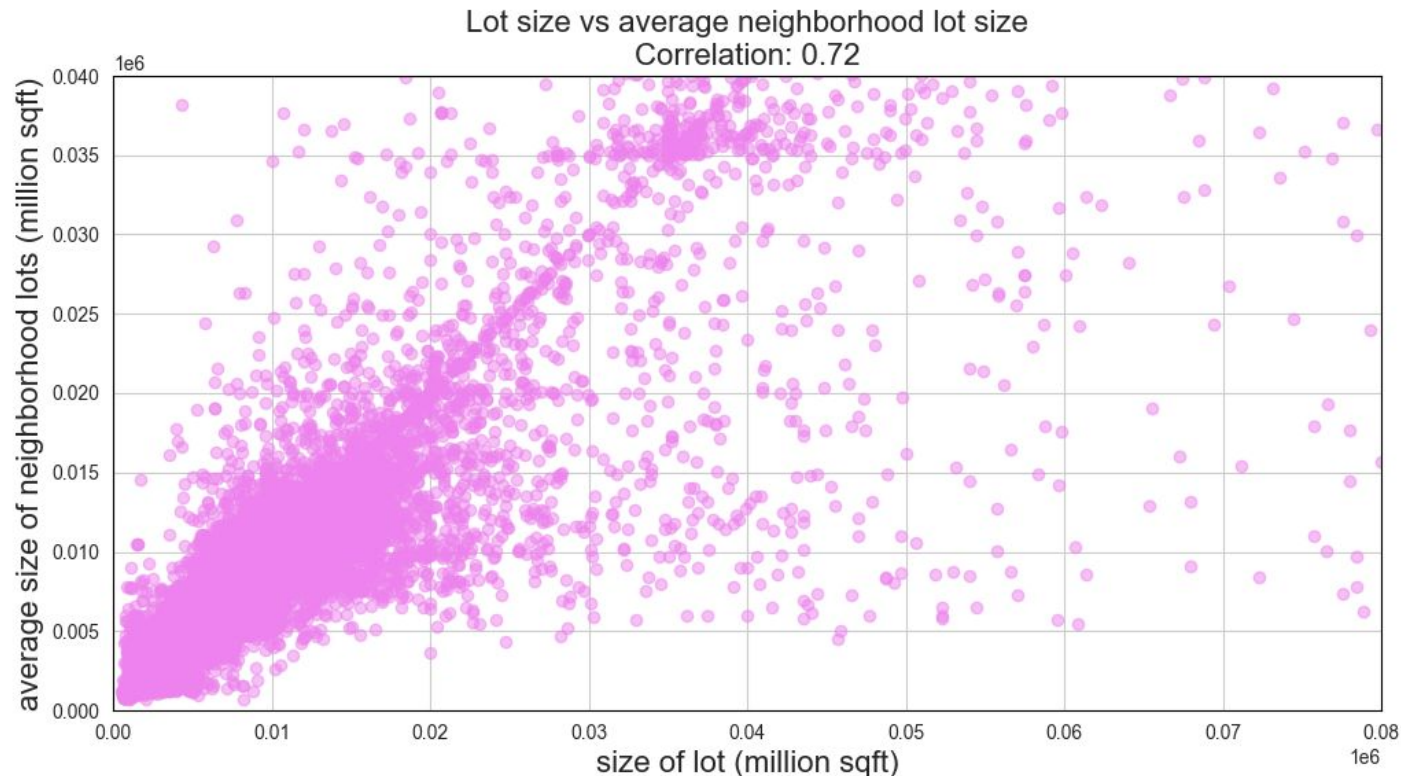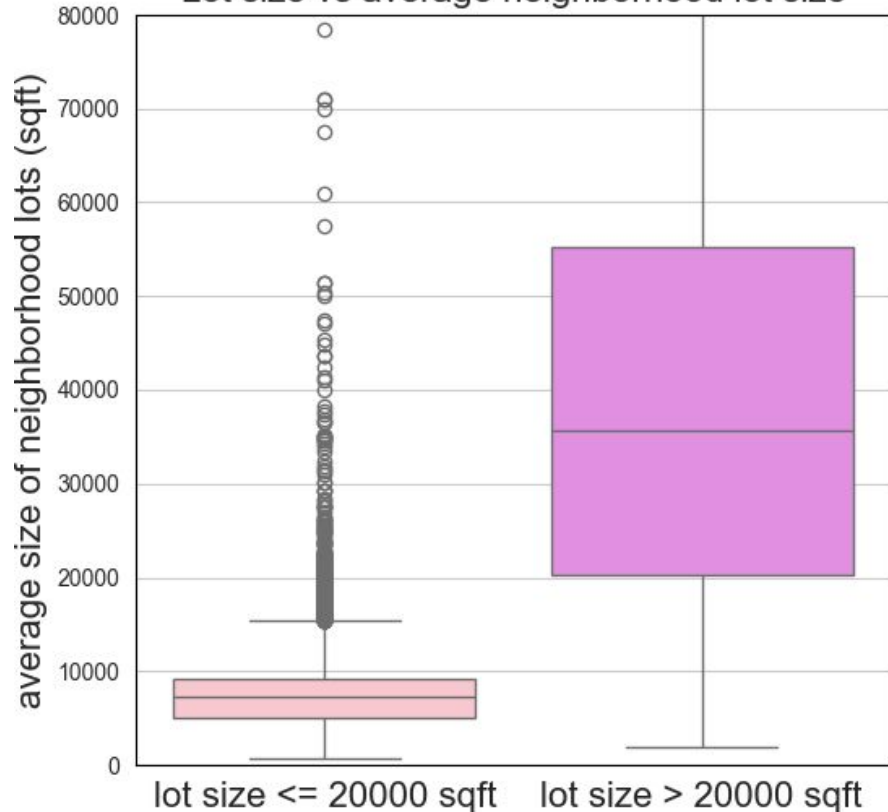# EDA Project

Sara Shankar

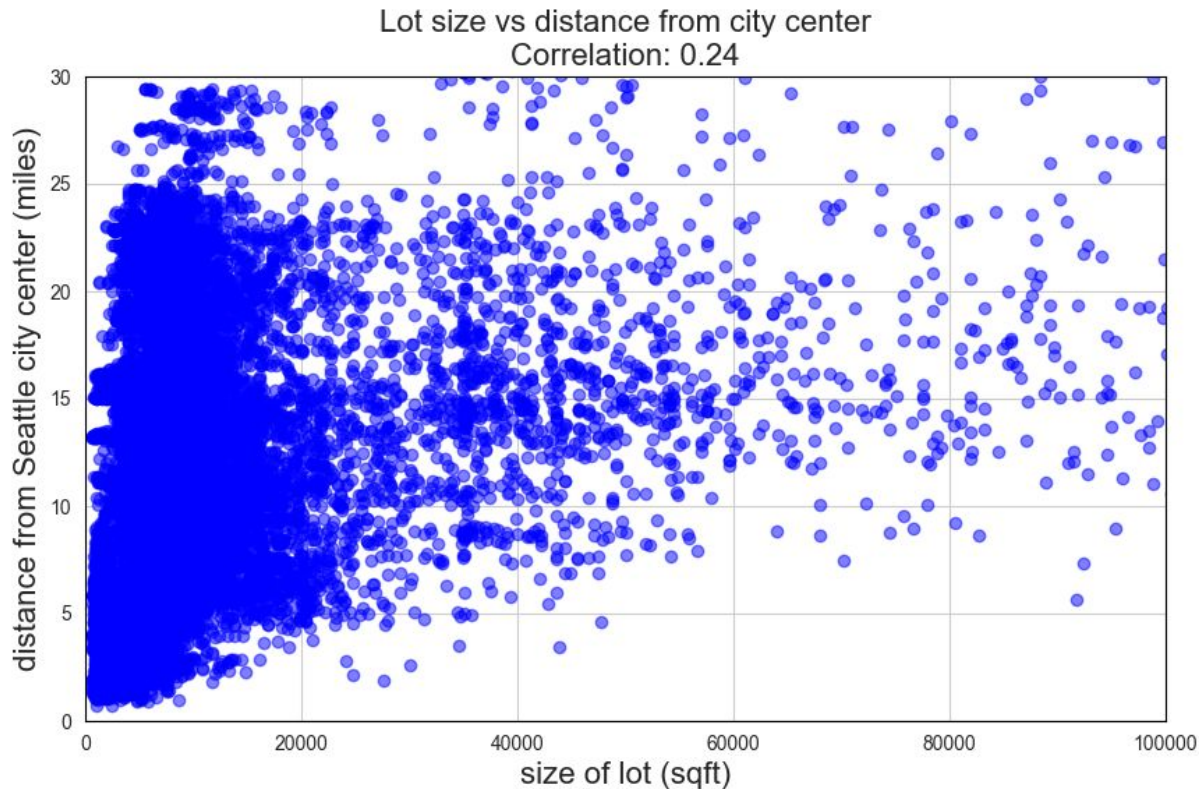# Hypothesis 1: Lot sizes and average neighboring lot sizes are similar
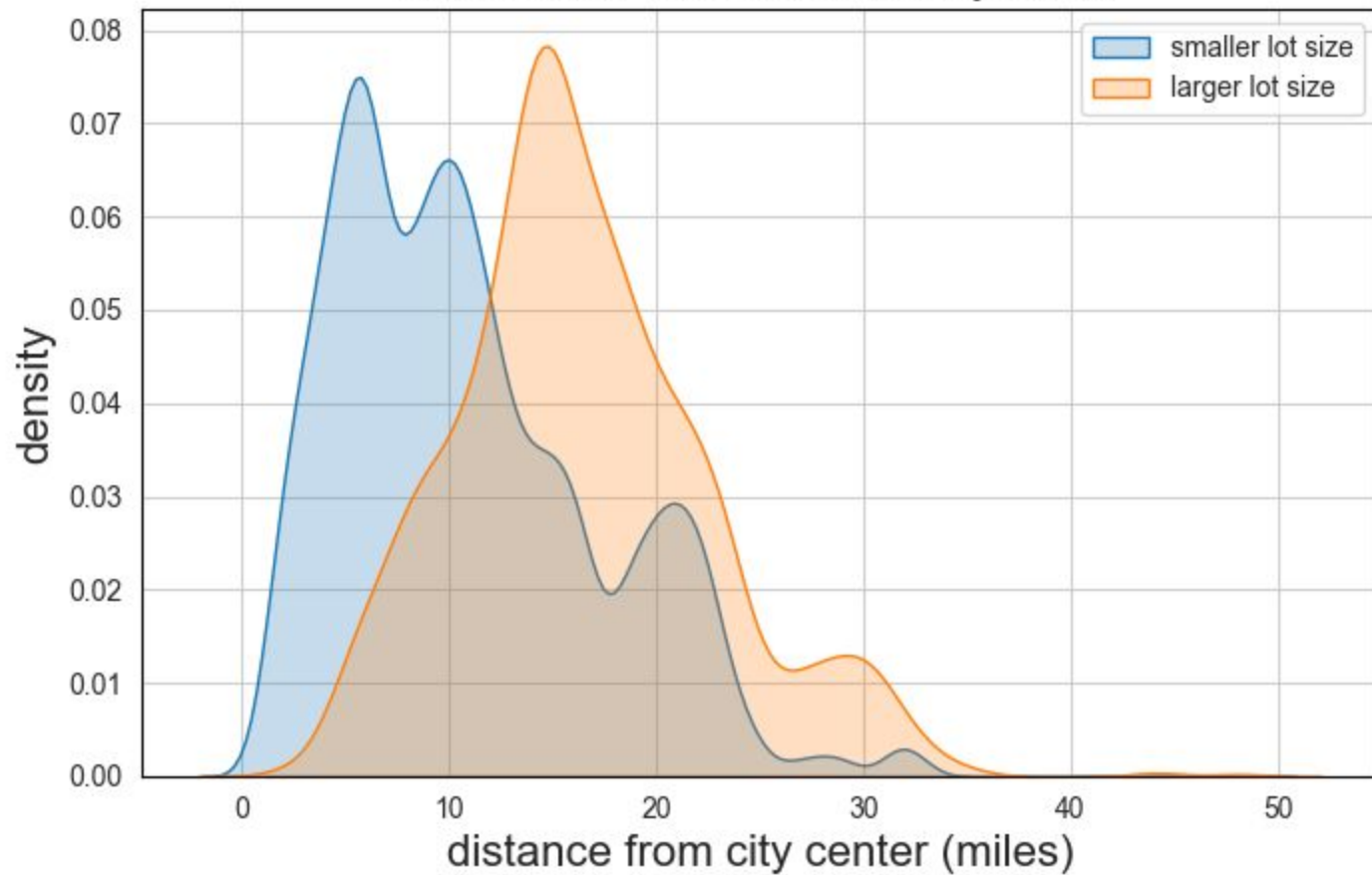
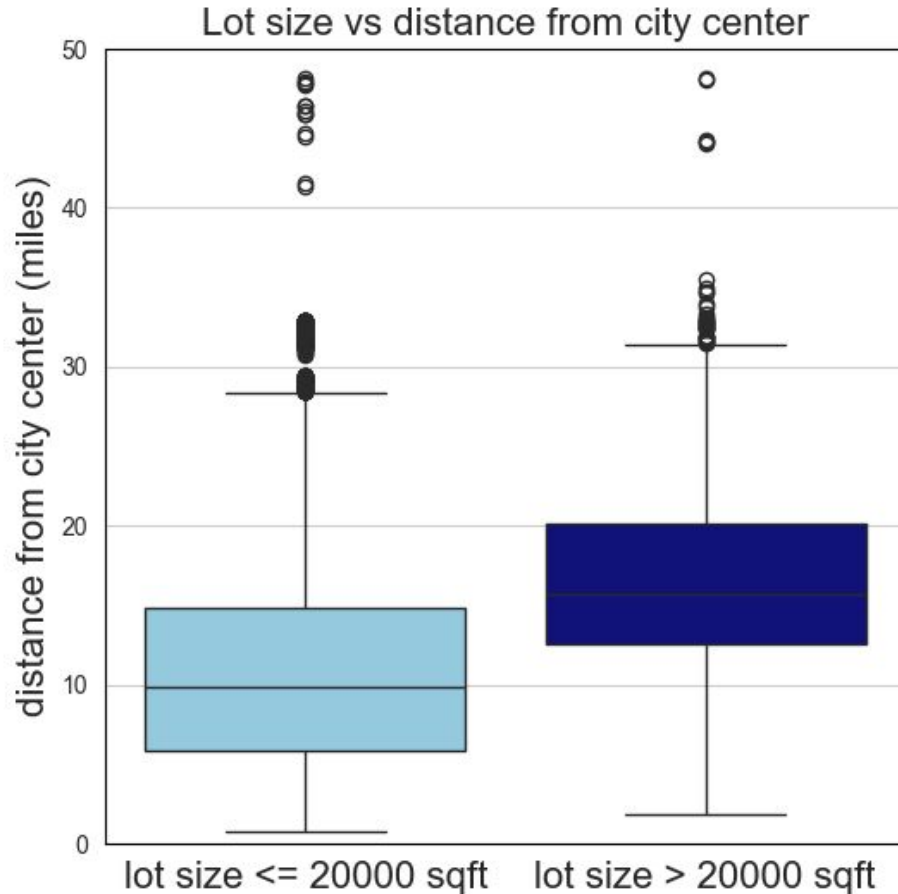Lot size vs average neighborhood lot size

Hypothesis testing results:

- **pearsonr test**: there is a linear correlation between lot size and average neighborhood lot size
- **levene test**: variances of two distributions are significantly different
- **ttest_ind**: means of two distributions are significantly different

Hypothesis 2: Larger lot sizes are further away from the city center

Lot size vs distance from city center
Correlation: 0.24

KDE Plot for distance from city center
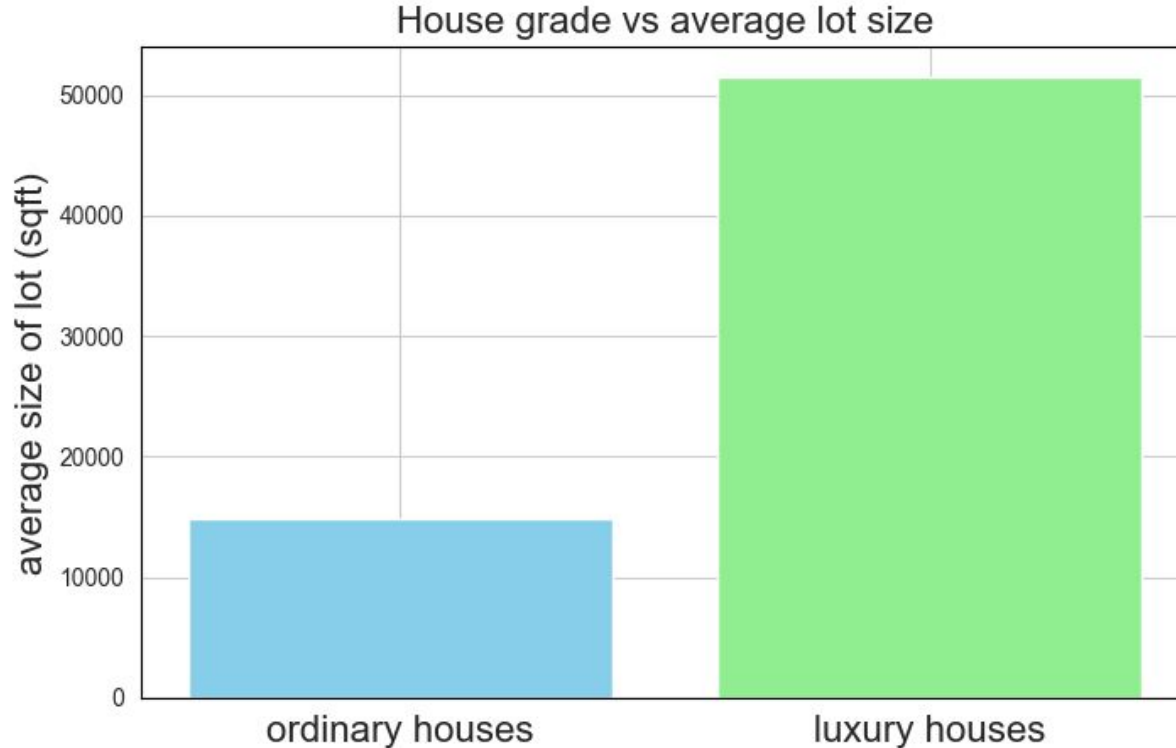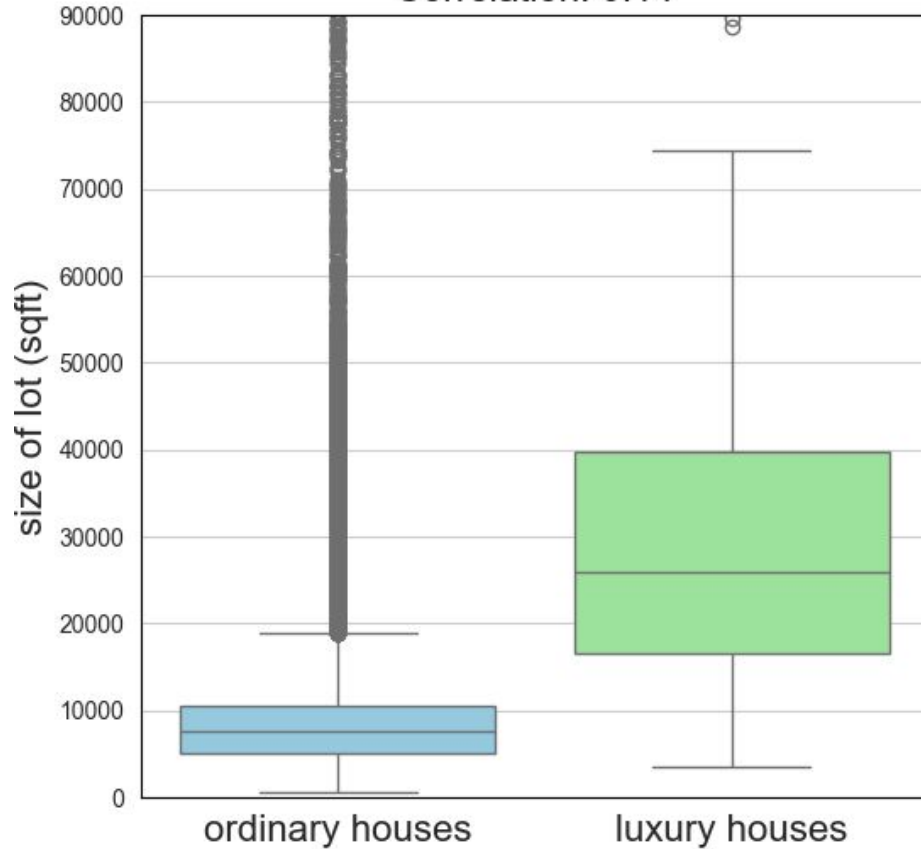
Lot size vs distance from city center

Hypothesis testing results:

- **pearsonr test**: there is a linear correlation between lot size and distance from the city center
- **levene test**: variances of two distributions are significantly different
- **ttest_ind**: means of two distributions are significantly different

Hypothesis 3: Luxury houses (grade 12 and 13) have larger lot sizes

House grade vs average lot size

House grade vs lot size
Correlation: 0.14

Hypothesis testing results:

- **levene test**: variances of two distributions are significantly different
- **ttest_ind**: means of two distributions are significantly different
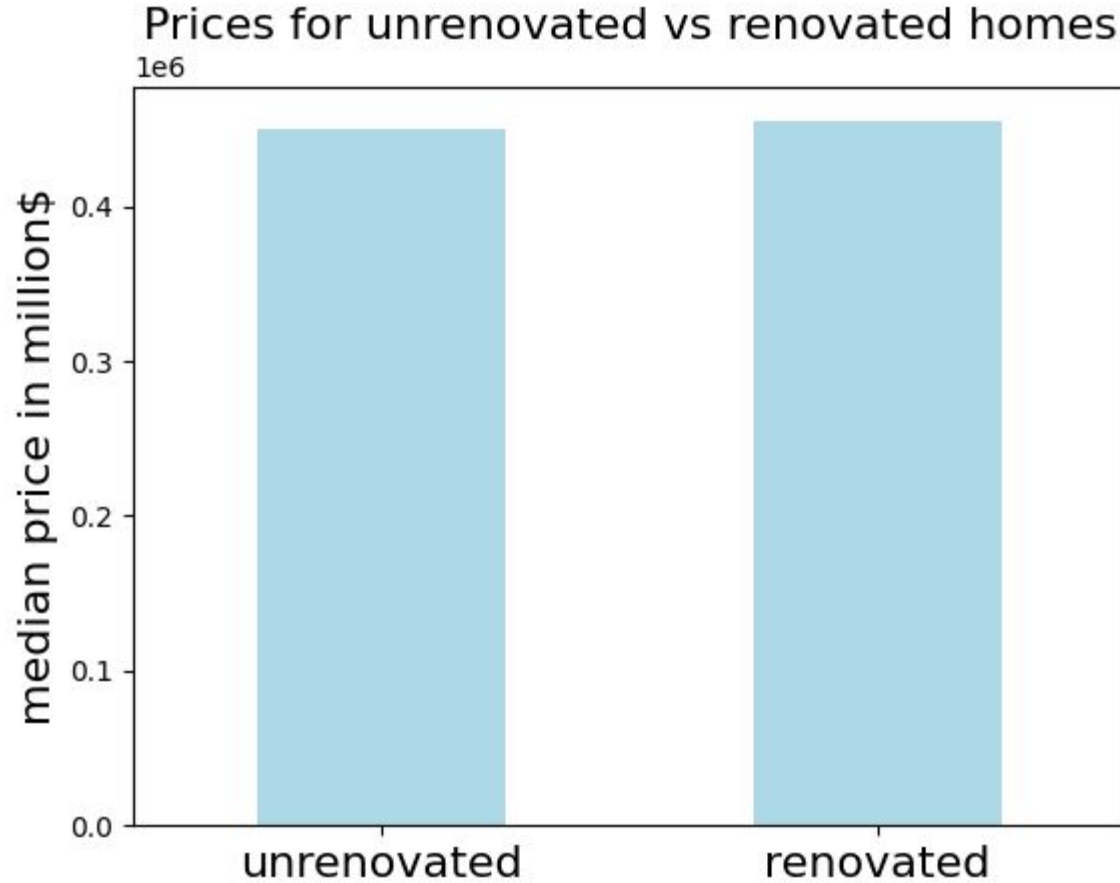
Client: Nicole Johnson

- Lively and central neighborhood

- Middle price range

- Wants to buy within a year

- Willing to renovate home if needed
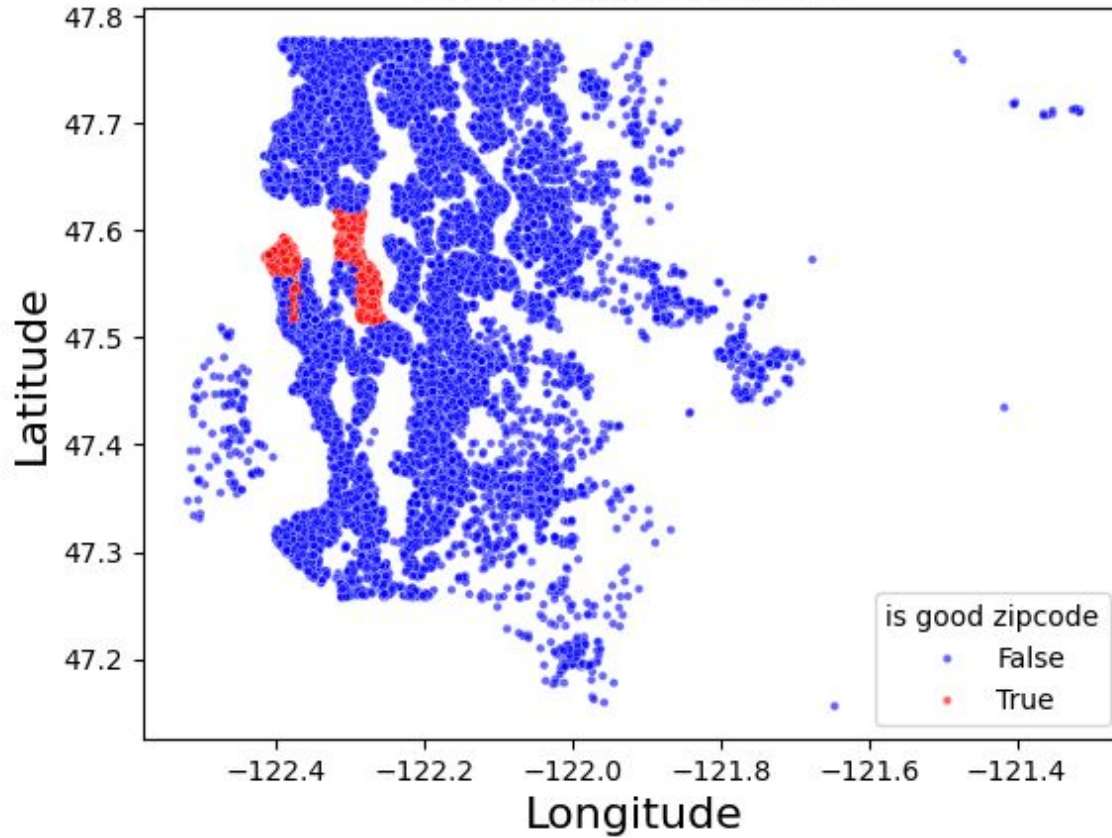
Median sales prices for each month

Recommend her to buy the house during the month of december

Prices for unrenovated vs renovated homes

1e6

median price in million$

0.4

0.3

0.2

0.1

0.0

unrenovated   renovated

Recommend her to purchase a renovated home, rather than renovating after purchasing.

Best neighborhoods

Recommended zipcodes to look:

98144

98118

98116

98122

98126