Datacamp Certification

Business Understanding

| Business Problem	Business Objectives	Model Objectives	Model Success Criteria
Conversion rate of Inn the Neighborhood app is only about 2%	Create a rent price prediction model to help people estimate the money they could earn renting out their living space	Create a regression model	Mean Absolute Error <25 dollars
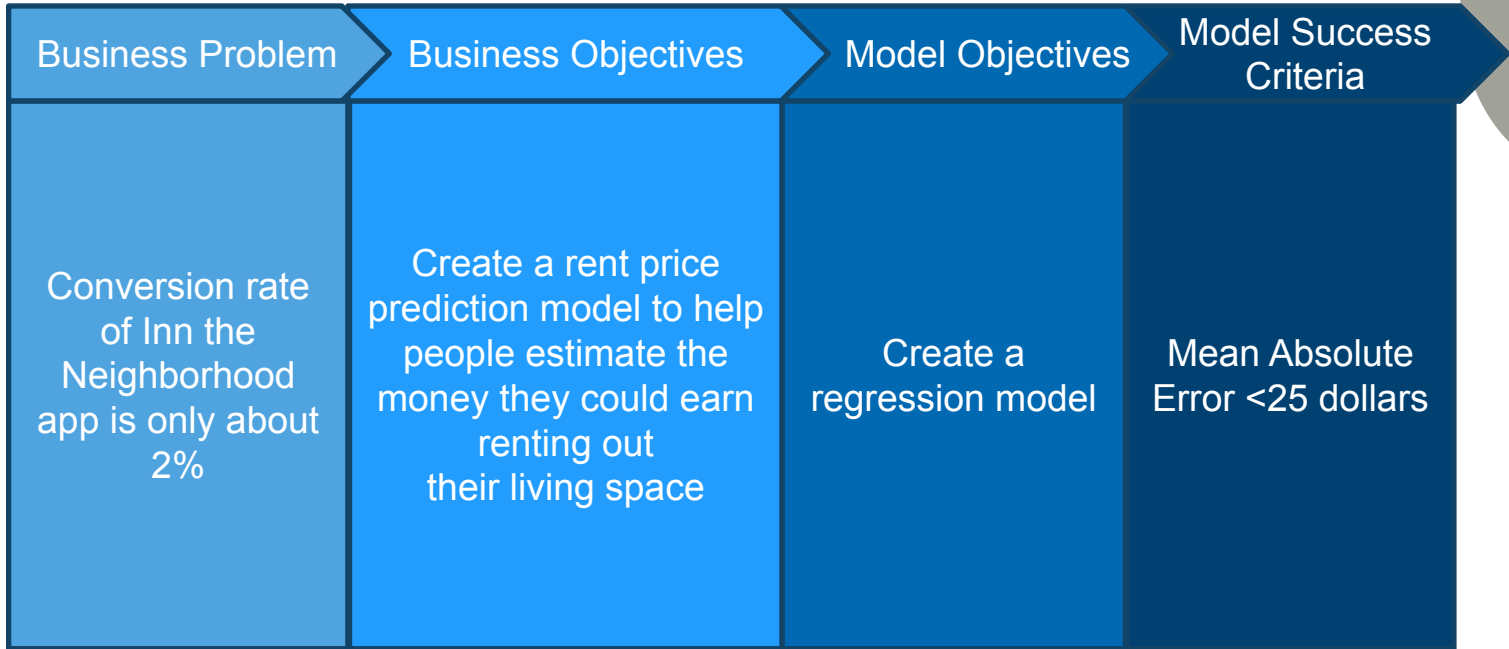
Result

1. The Model uses 7 columns and 2076 rows to create the prediction model
2. The Model able to predict house price within 24 dollars of the actual price.
3. The more expensive rent are near the center of the data which near downtown San Fransisco
4. The most expensive rent are condominium
5. The most frequent rent services are for Private rooms.

# Insights: Rent Price

Price Histogram

After Handling Outliers
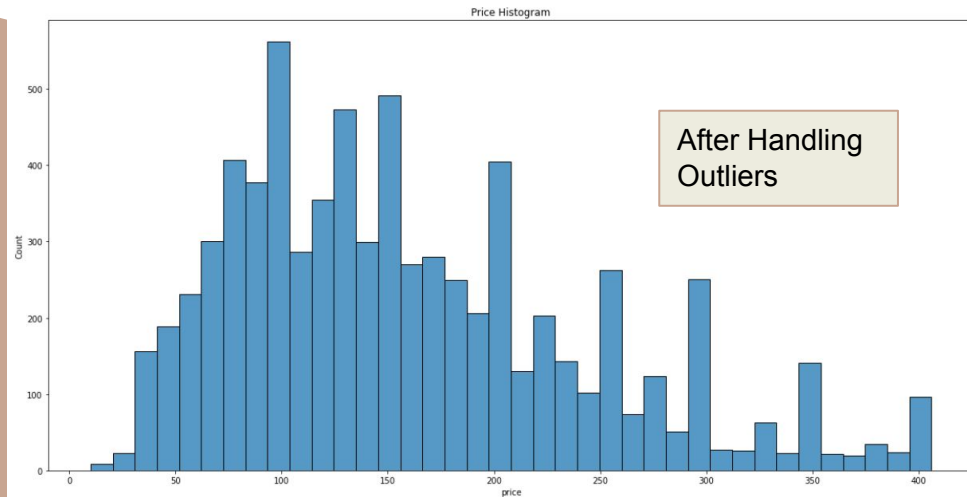
The price ranges from 1 to about 400 dollars per night(Excluding Outliers). With the majority of the data in the range of 50-200 dollars per night.

Insights: Property Type
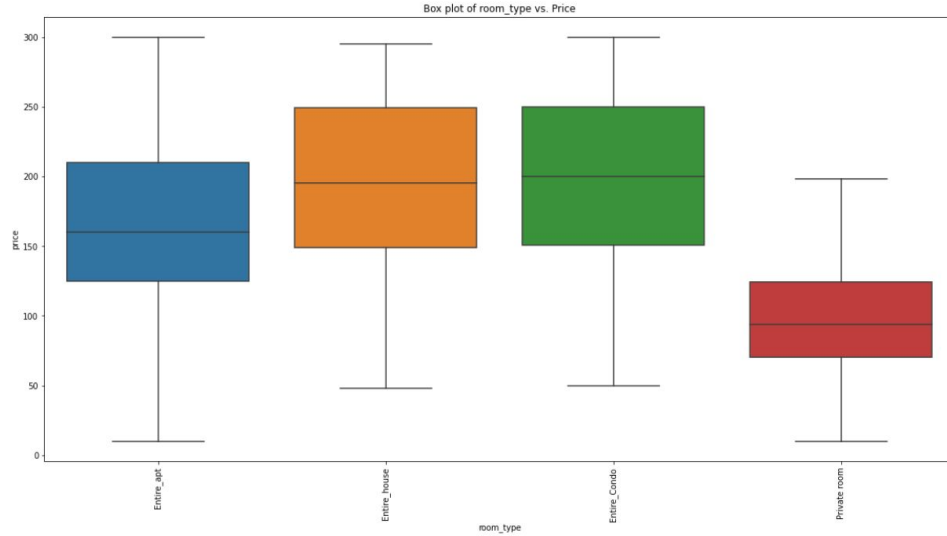

Box plot of property_type vs. Price
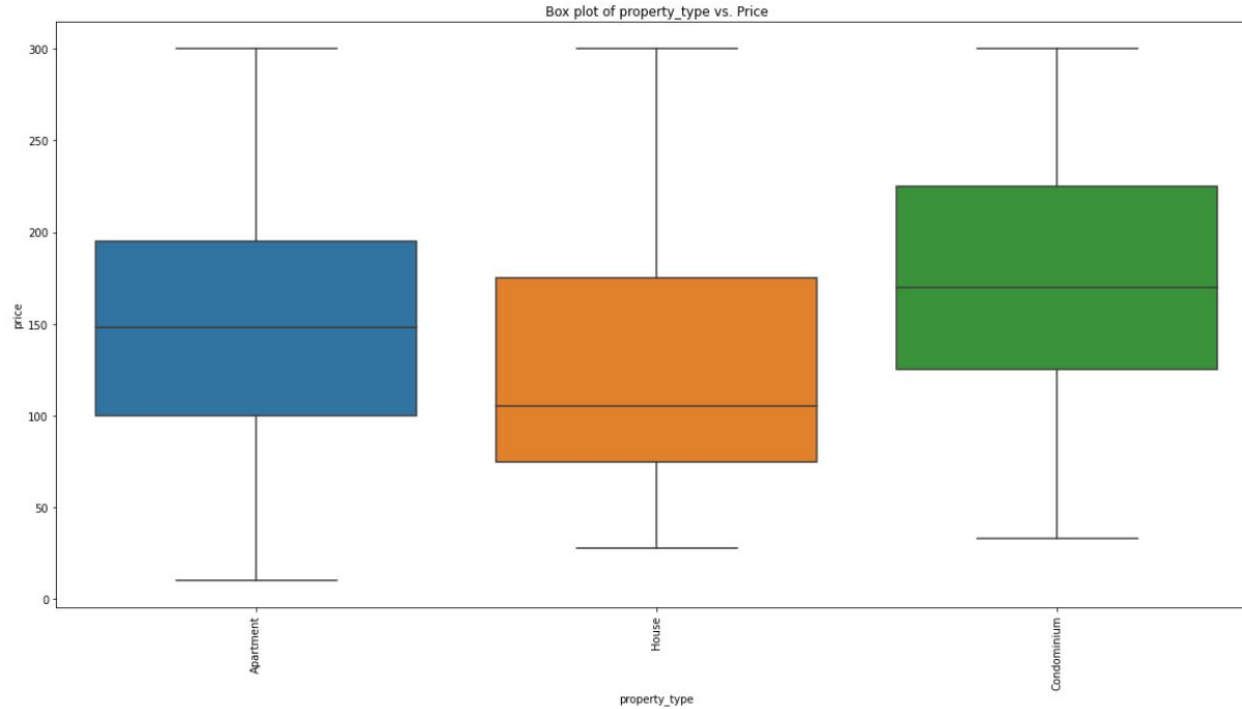
Prices of renting Condominiums is highest among the three remaining categories and the price of renting Houses is the lowest overall.
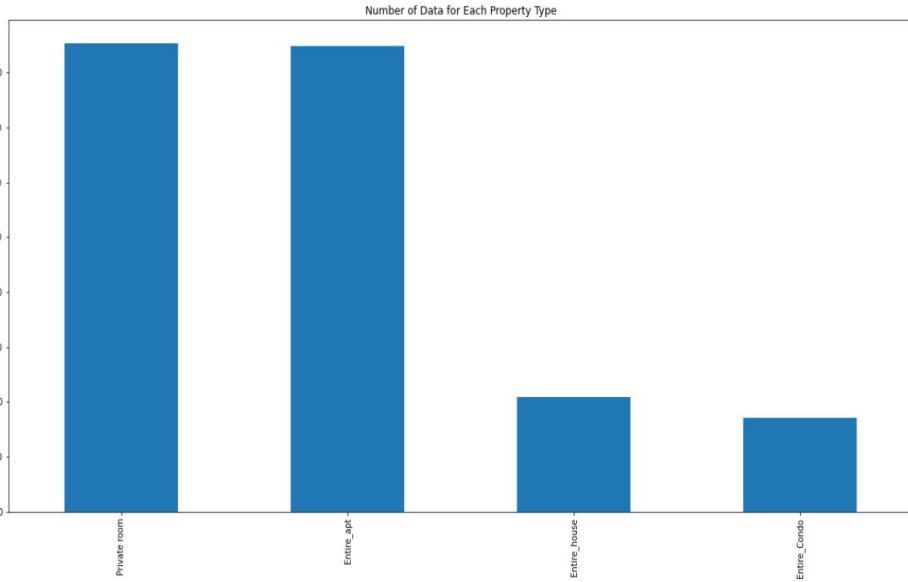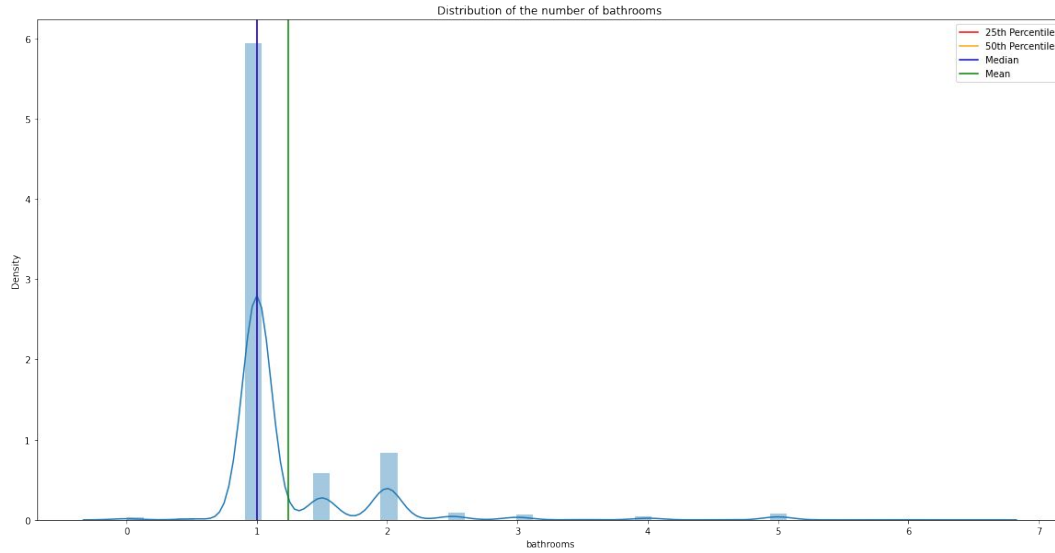
Insights: Room Type

Renting private room is the most common in the data but renting an entire condominium and entire house is the most expensive.
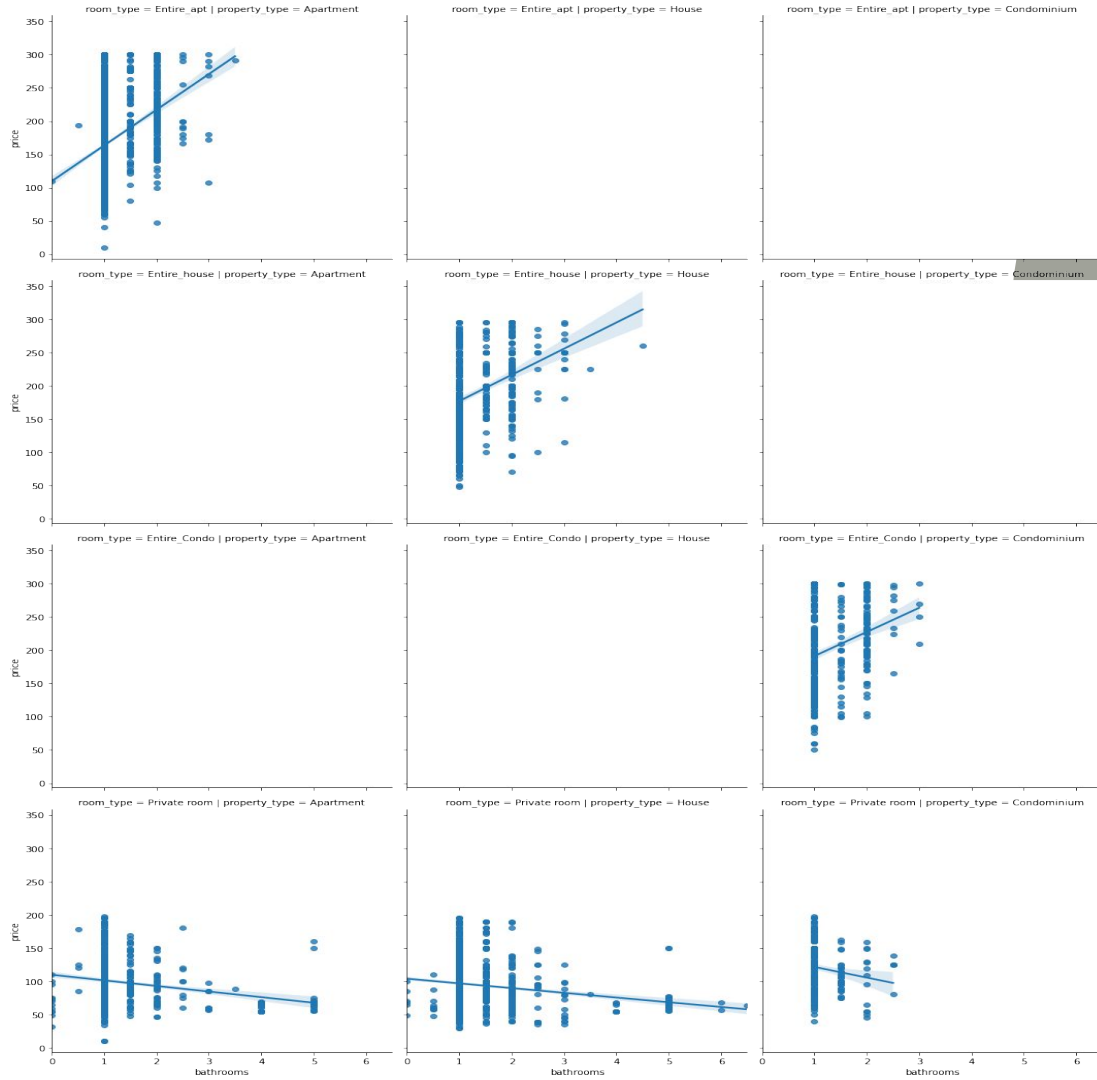
Insights: Bathroom
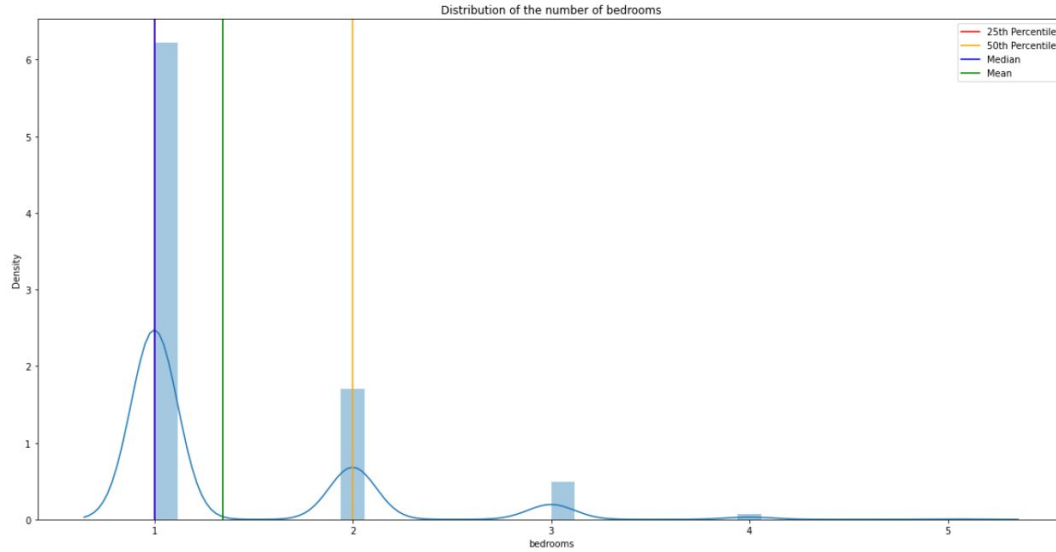

Distribution of the number of bathrooms

As shown in the graph above, most services only provide one bathroom.

Insights: Bathroom

Price tends to be more expensive as more more bathrooms being offered, except for the private room category
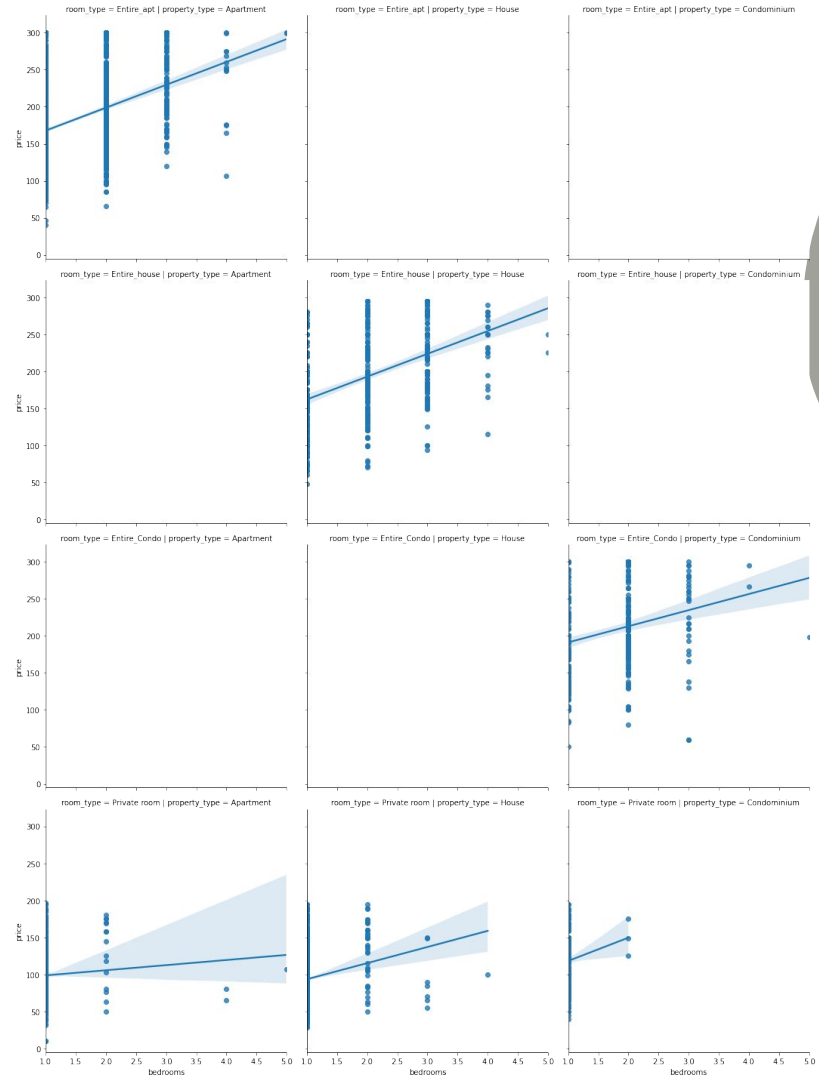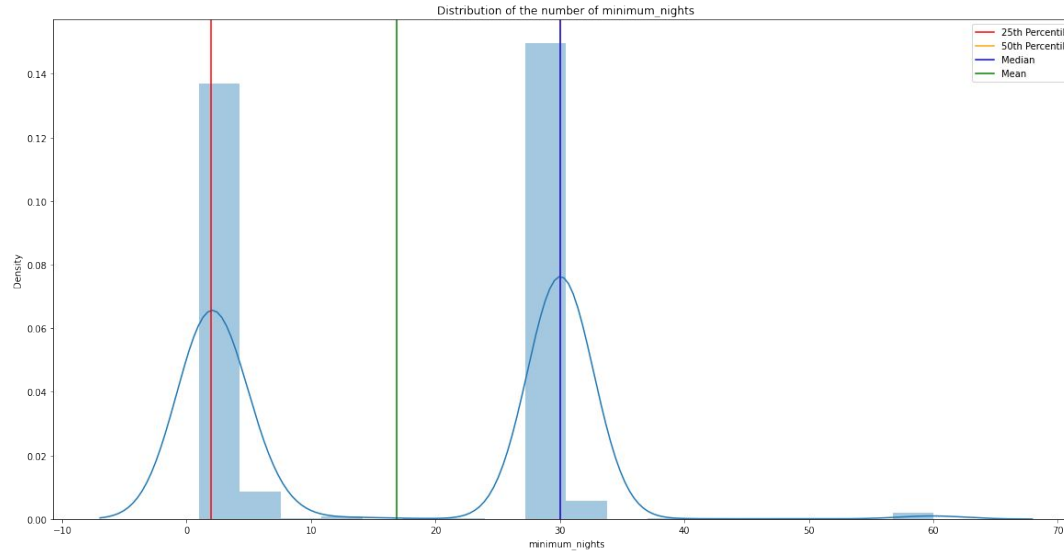
Insights: Bedrooms

Distribution of the number of bedrooms

Most services only provide one rooms.

Insights: Bedroom

Price tends to be more expensive as more more bedrooms in the property
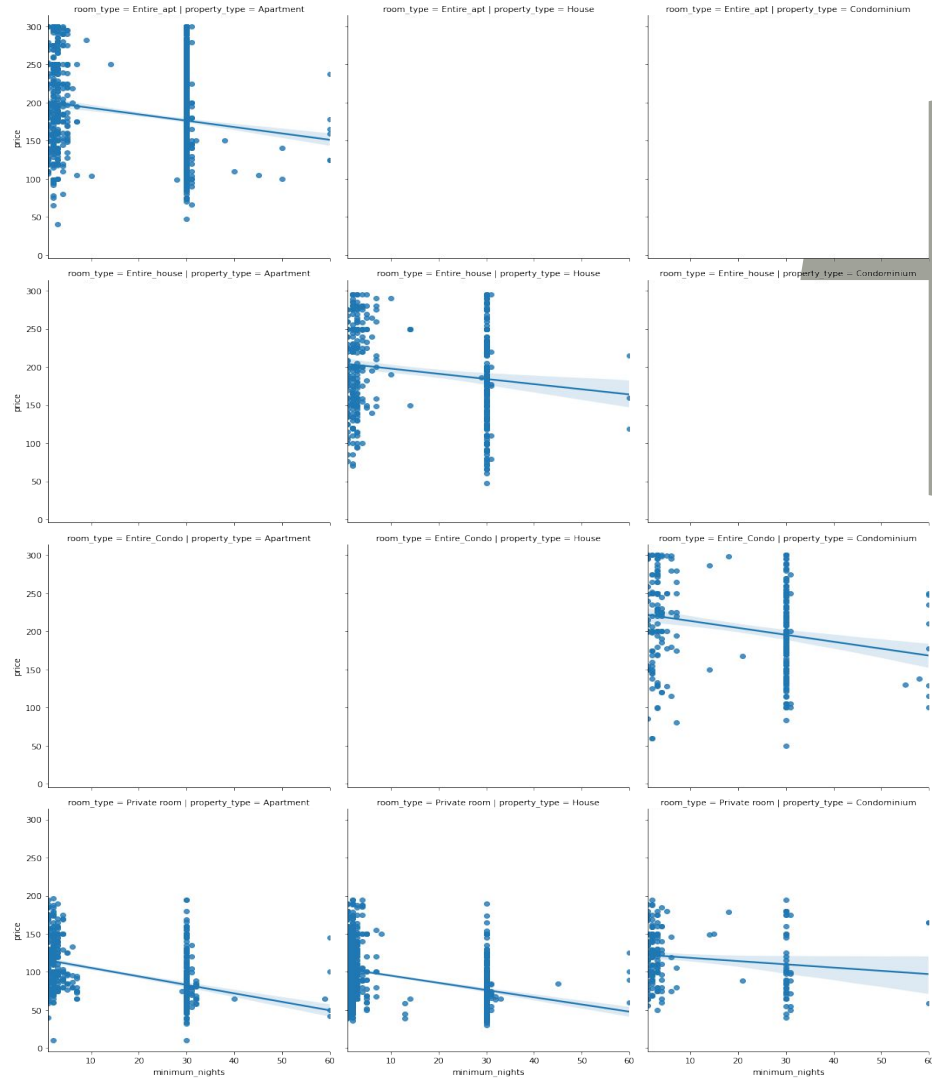
Insights: Minimum Number of Nights

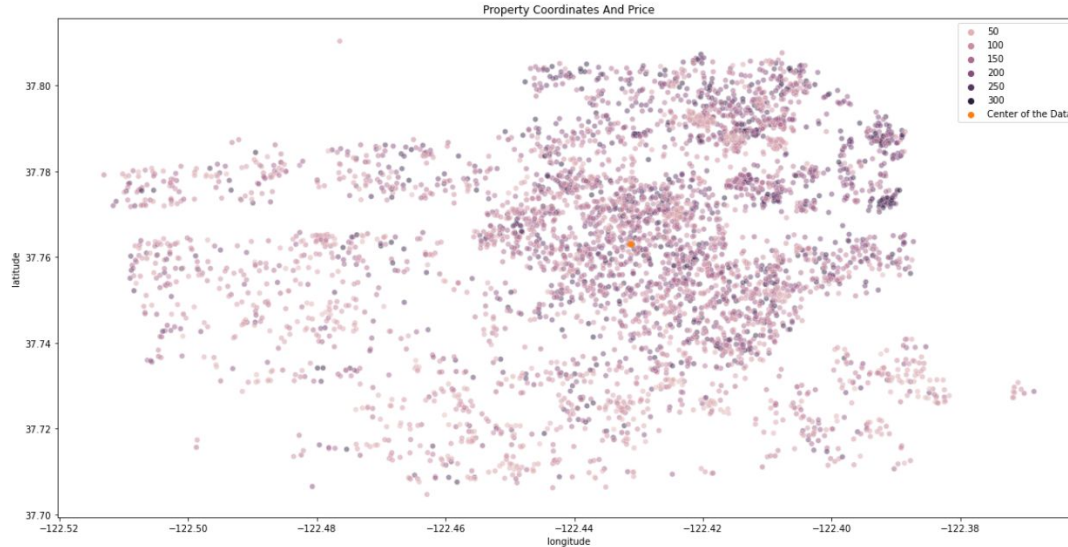Distribution of the number of minimum_nights

Most of the data are properties to be rented daily and monthly.

Insights: Minimum Nights

As shown in the graph on the right, the price per night tends to decrease as the minimum of nights required to rent the property gets higher.

Insights: Property Location

Property Coordinates And Price

Expensive properties are near the center of the data (Near downtown San Fransisco). Hence, to create a more simple feature for machine learning, I create a column that measure the distance between the center of the data to the coordinate of the property.