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DATA ANALYSIS OF KING COUNTY PROPERTY SALES (2014-2015)

KING COUNTY, WASHINGTON, U.S.A

| Variable	Description
id	Unique identification number
date	House sale date
price	House sale price
bedrooms	Number of bedrooms
bathrooms	Number of bathrooms (0.5 indicates toilet and sink only)
sqft_living	Square footage of total living area
sqft_lot	Square footage of total lot area
floors	Number of floors
waterfront	A dummy(binary) variable that indicates waterfront view
view	0-4 index on how good the view of the property is
condition	1-5 index on condition of the house
grade	1-13 index - King County house grading system
sqft_above	Square footage of housing space above the ground
sqft_below	Sqaure footage of housing space below the ground
yr_built	Year that house was built
yr_renovation	Year of house's last renovation
zipcode	Zipcode area of the house
lat	Latitude
long	Longitude
sqft_living15	Square footage of total living area for nearest 15 neighbours
sqft_lot15	Square footage of total lot area for nearest 15 neighbours

▸ Data consists of 21 attributes describing the property.

▸ We have conducted analysis to investigate causality between property attributes and price.

▸ We will use regression modelling to create predictive models reflecting property prices in King County, Washington, USA.

▸ This will prove beneficial to property investors in by establishing a price for the property, avoiding over/ undervaluation.

▸ The predictive modelling can aid investors in making offers that better reflect the market value of the property and help find properties with attractive attributes at the lowest price, making it a solid investment.

# PROPERTY VALUES VARY BETWEEN AND WITHIN ZIP CODES DUE TO WATERFRONT PROXIMITY.

Location of Null Waterfront
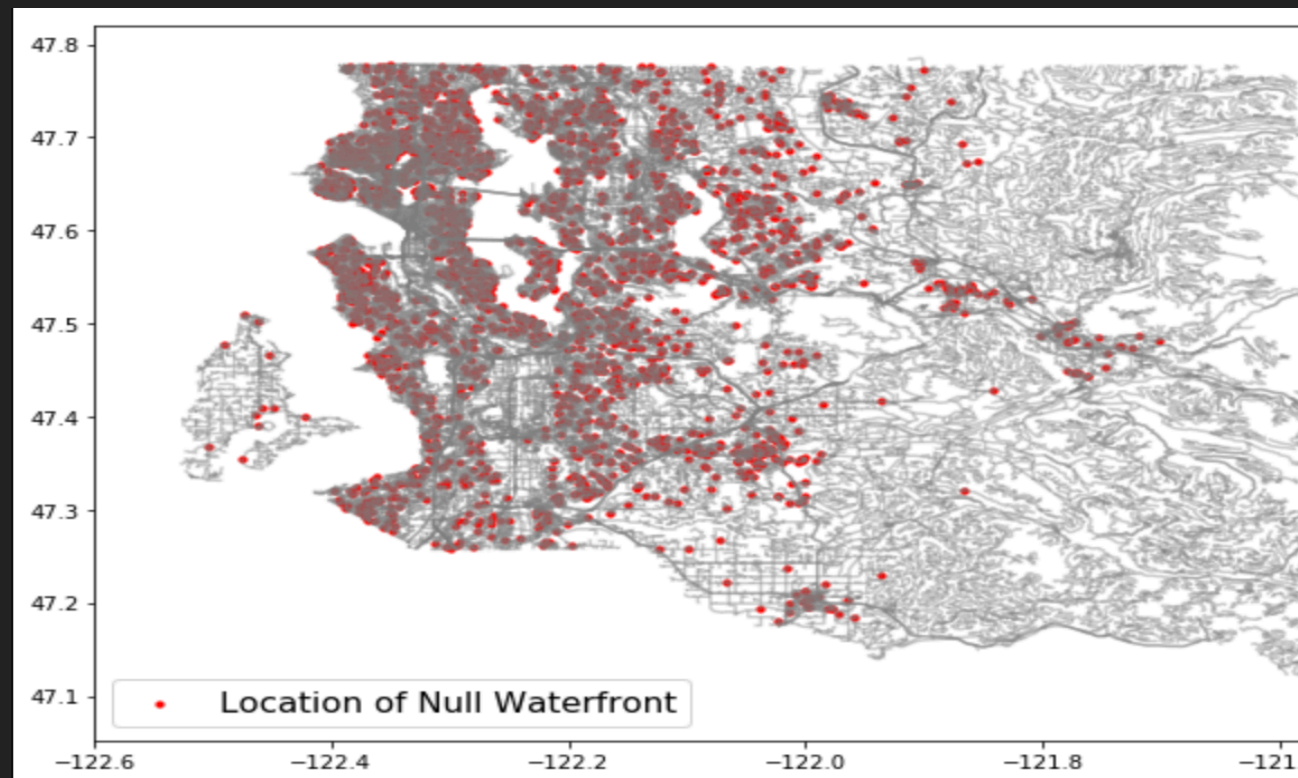
▸ The dataset contained 2376 null values for waterfront which are mapped in the diagram to the left.

▸ Many of these properties look to be in very close proximity to the waterfront, however this cannot be verified by our data.

▸ We dropped the null values in order to negate any ambiguity.
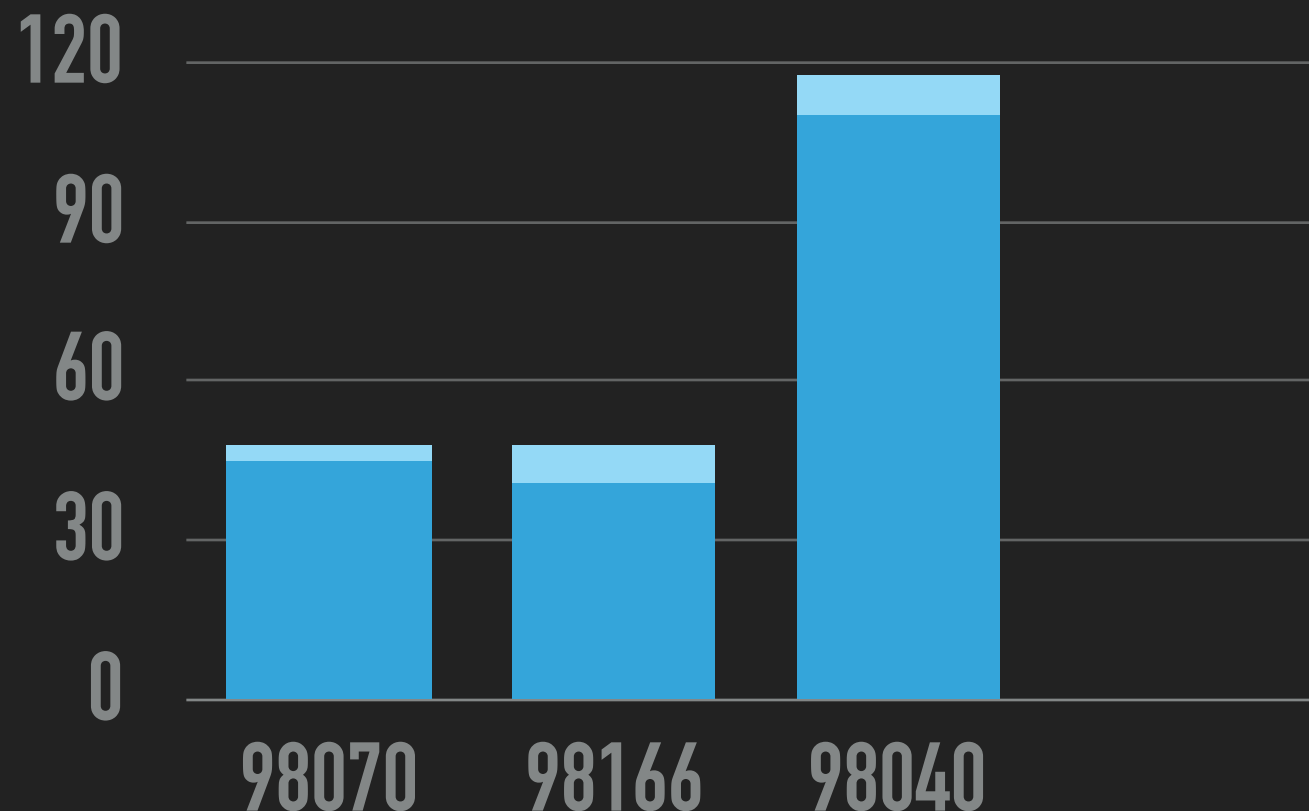
▸ Property values between zipcodes vary in every case.

▸ We identified the zipcodes that contained the highest number of waterfront properties and compared the average price of those properties against properties not on the waterfront.

▸ Despite the lack of null values, from the data we have, we postulate that properties on the waterfront have more value.

THE SQUARE FOOT LIVING CAUSES AN INCREASE IN PROPERTY VALUE, WHEREAS SQUARE FOOT LOT HAS NO POSITIVE IMPACT.
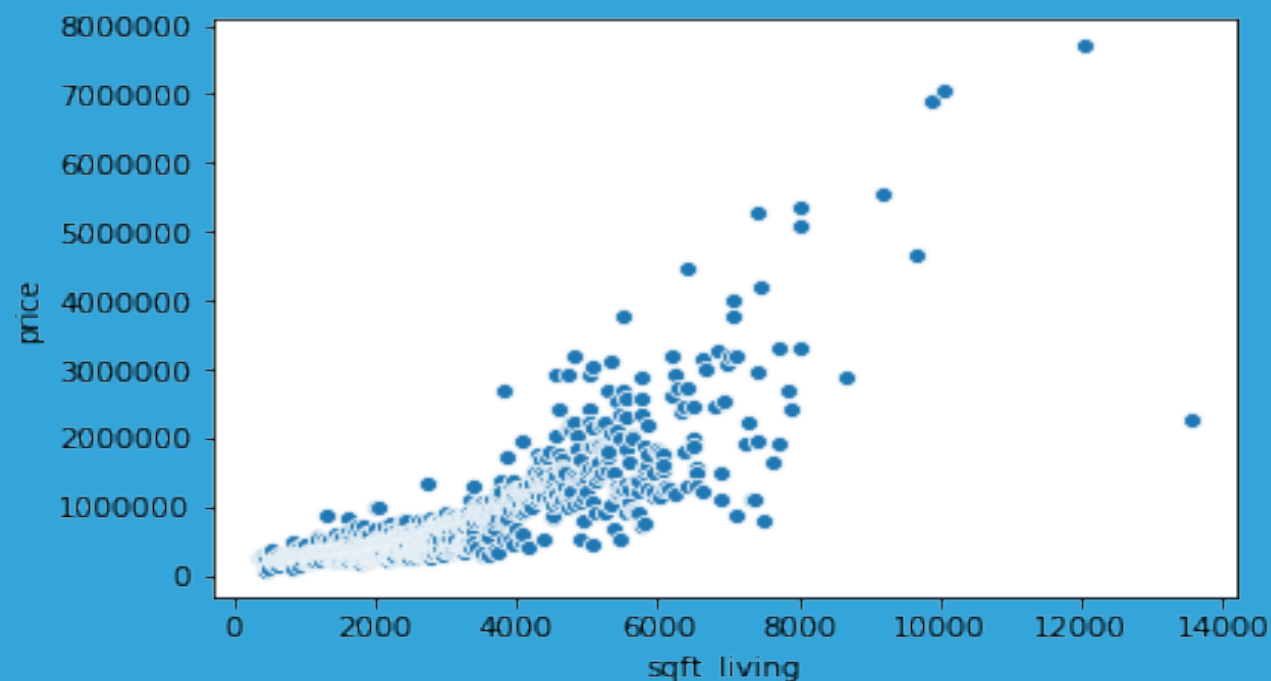

- ▸ Increases in the size of living space does cause the value of property to increase.

- ▸ This visualisation is crowded and noisy but serves the purpose of providing a comparison against the square footage of lot scatter graph depicted below.
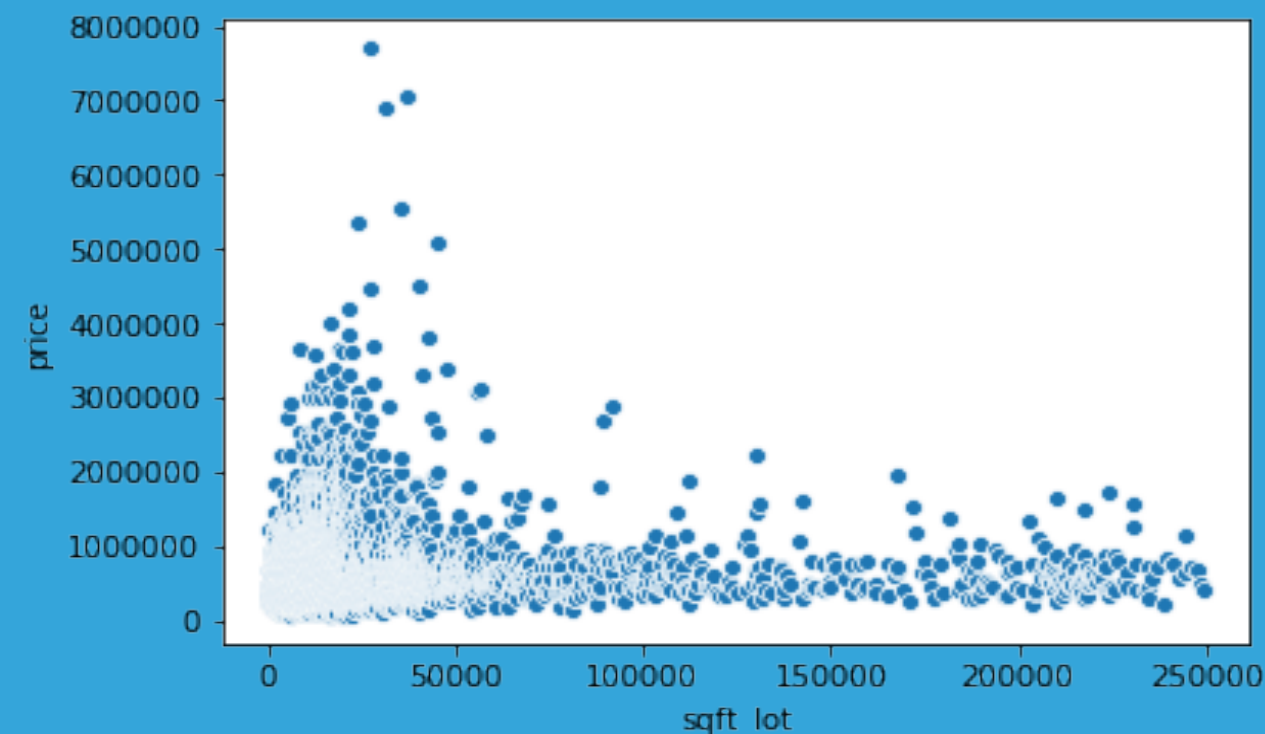
- ▸ An increase in square foot lot does not cause an increase in price.

- ▸ In fact, the most expensive properties occupy the smallest band area.

- ▸ This is an interesting finding and we chose to explore it further.

# THE SQUARE FOOTAGE OF LAND HAS LITTLE TO NO IMPACT ON PRICE, DEPICTING VARIOUS TRENDS IN PROPERTY MARKET.
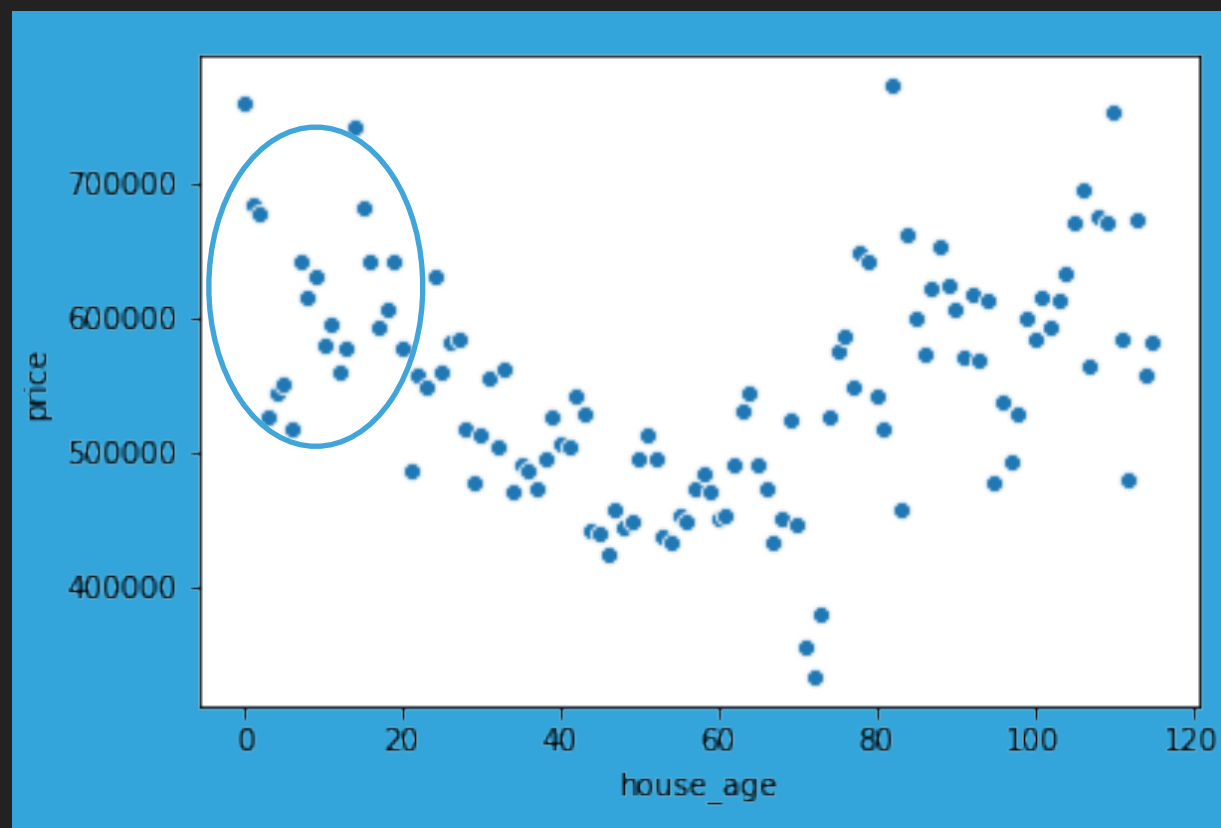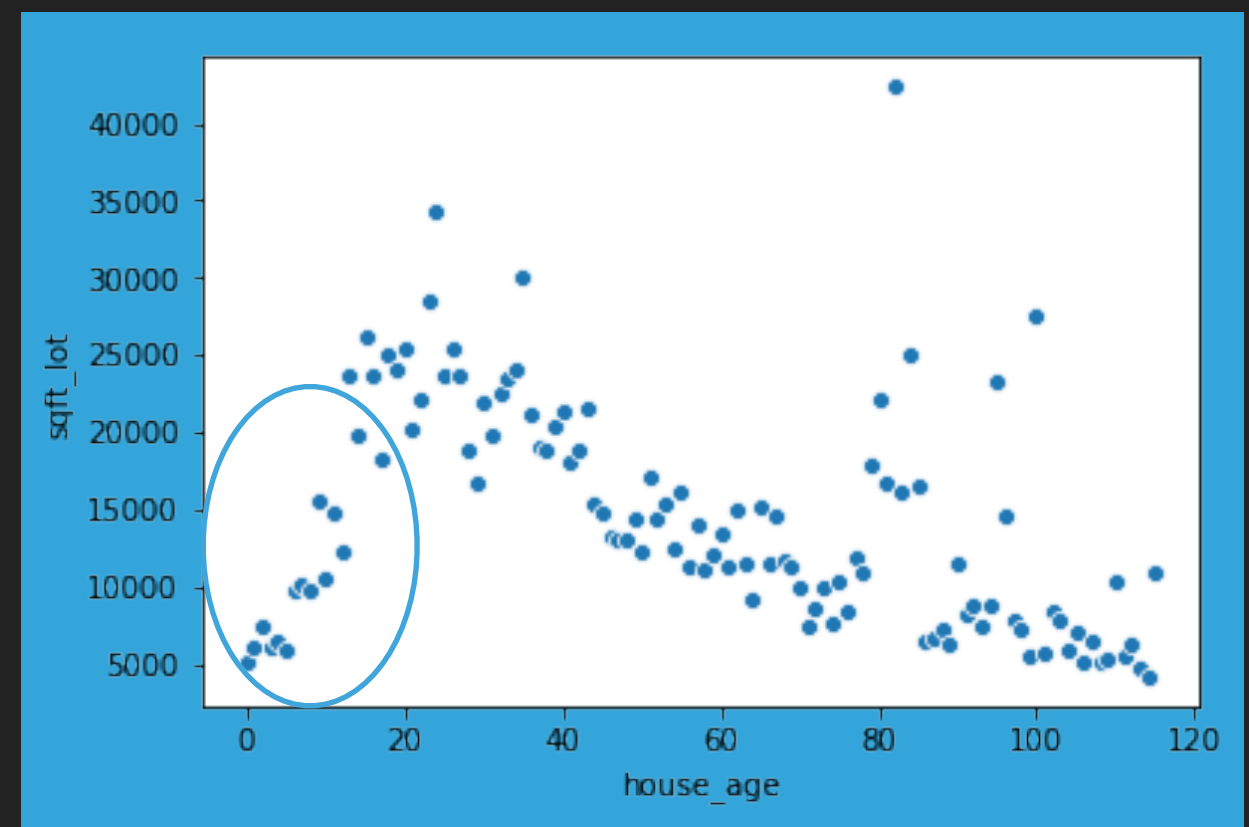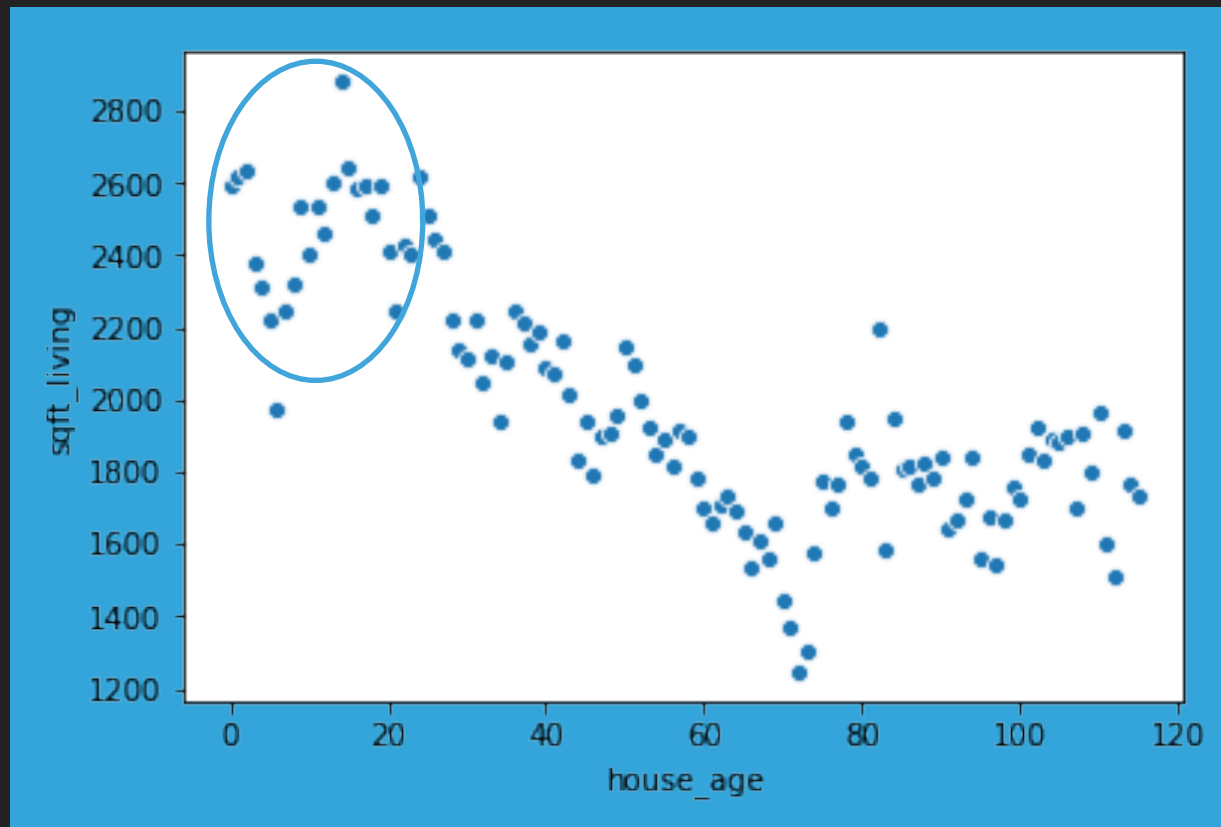
▸ Looking at properties that where built built between 0=20 years ago from date of sale,,we observe that;

　　▸ Square foot living is at a maximum

　　▸ Square foot lot is at a minimum

　　▸ Price is roughly at a maximum suggesting that for recently developed properties, lot space does not increase value.

This could be due to densely populated areas where there is a high proportion of working professionals who chose to reside in apartments in central locations.

In addition, this could be due to trend in architecture of properties where efficient use of living space is prioritised as a result of a higher population and a decrease in available land. E.G town houses are built up.

(insert map on next slide of high living, low lot, high price)

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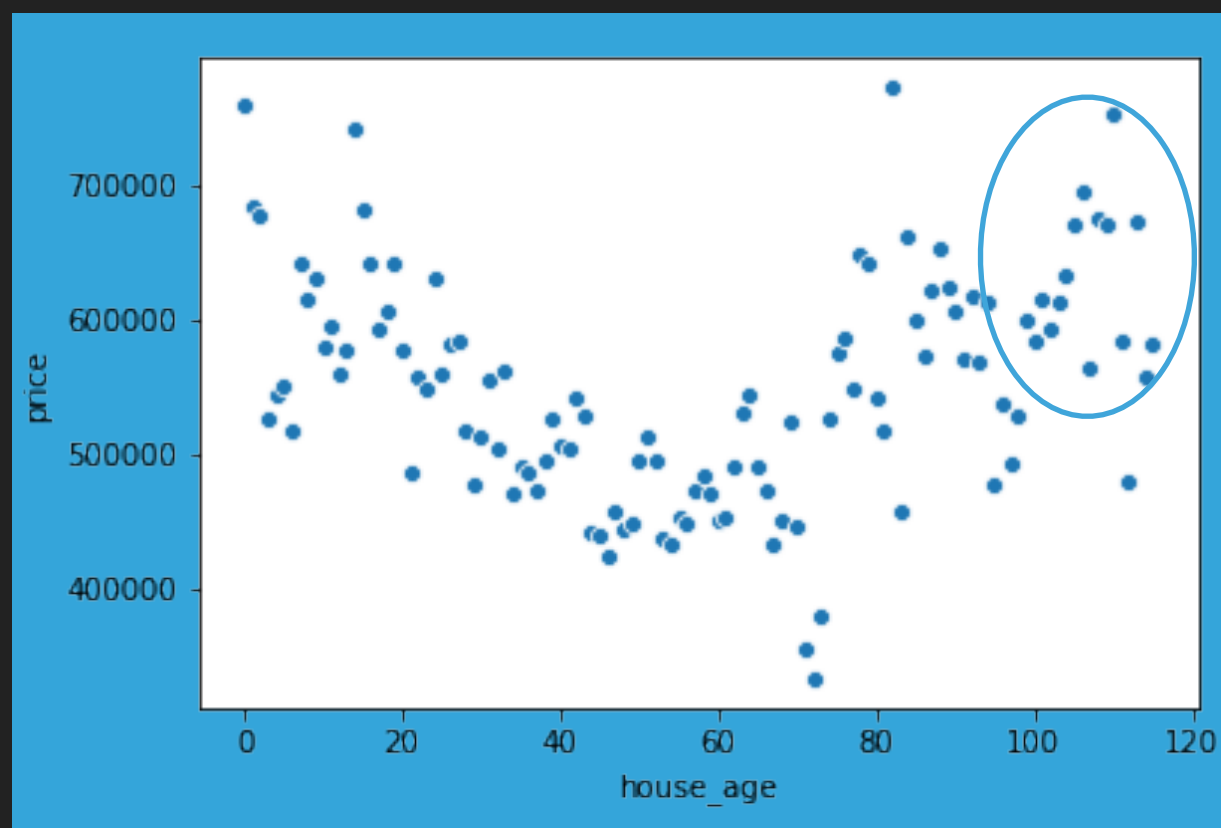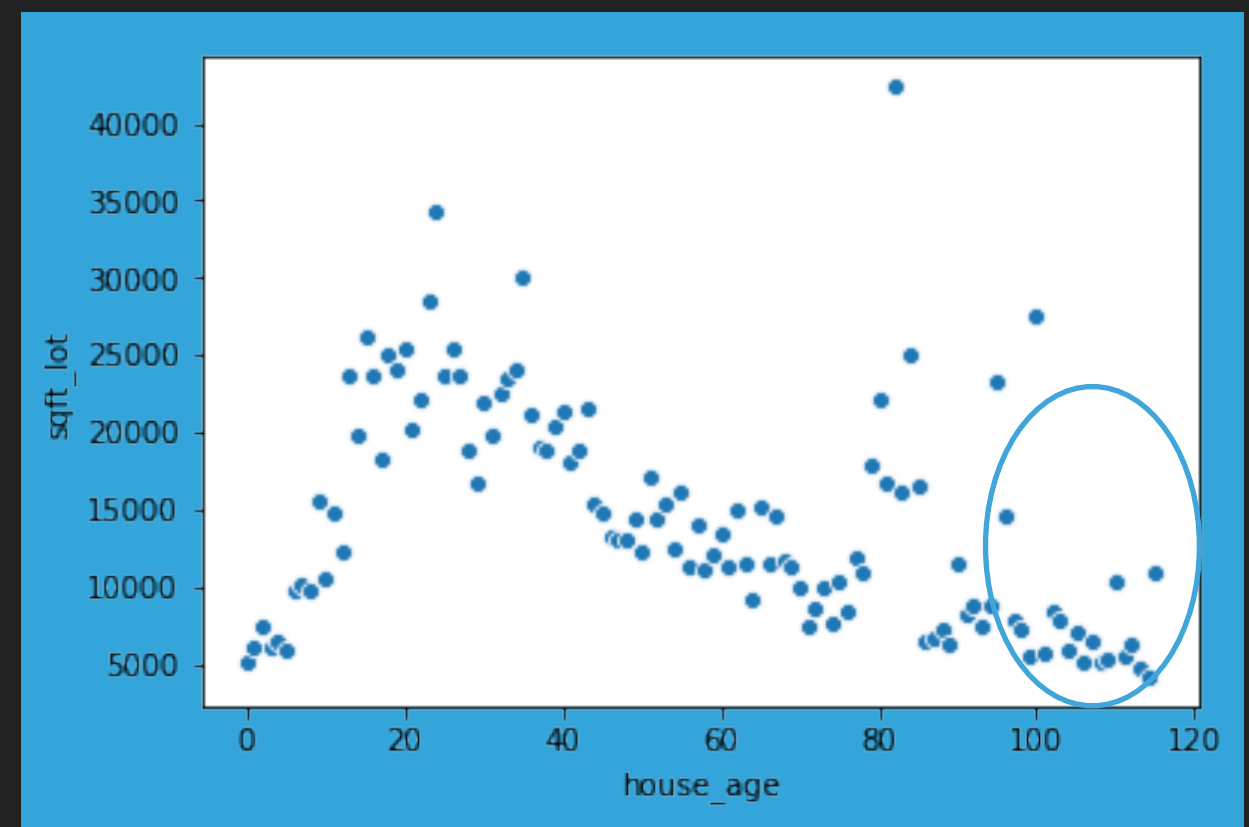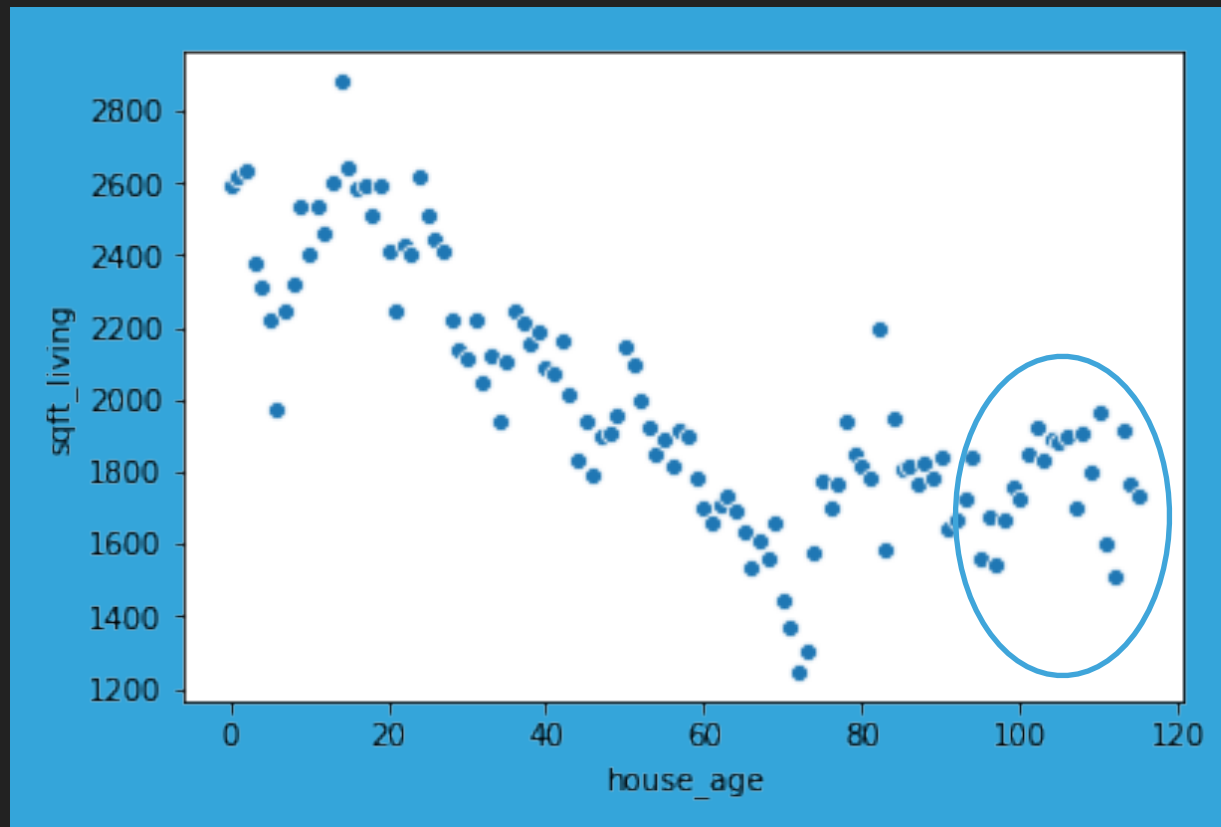
- Looking at houses that were between 100 to 120 years old at date of sale, we observe that;

  - Square foot living is low

  - Square foot lot is at a minimum

  - However price remains at a maximum suggesting that old properties retain their value due to another variable.

This is another interesting avenue to follow in the data set for further work.