EDA soloproject

Erin Robinson - house flipper with heart

Henryk Lange

Erin Robinson - the philanthropic house flipper

- wants to invest into poor neighborhoods
- buys and resells with small profit
- is socially responsible

- Buying and selling houses is often called “House Flipping”
- during the flipping the house is often renovated to increase resell value
- Erin does most renovation herself, resell only needs to cover for material and living costs

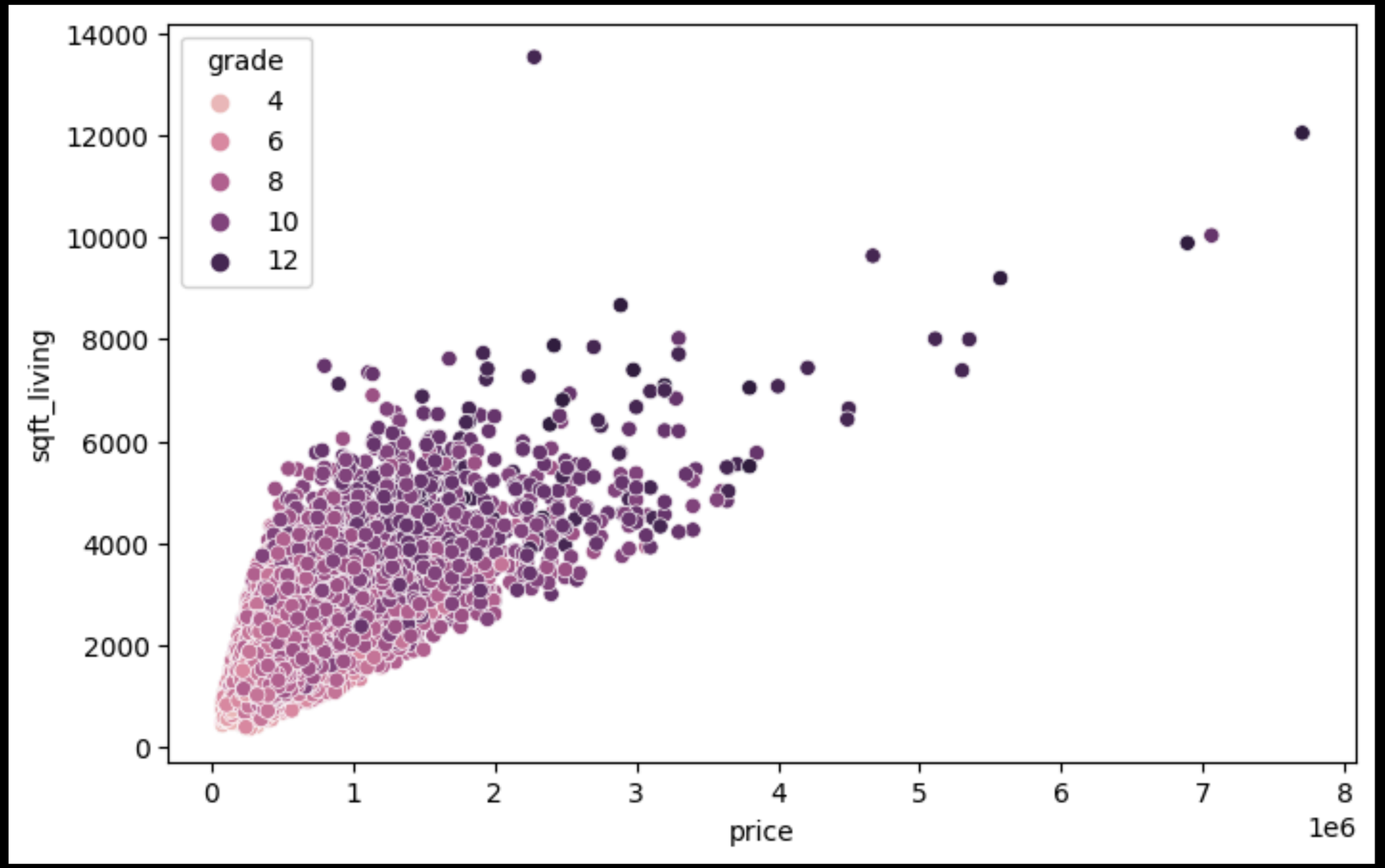
- Erin is looking for objects in poor neighborhoods for two reasons:
  - affordable for her budget (not big)
  - providing local communities better housings options and modernised interior (plumbing, kitchen

Available data:
Houses sold in 2014-15 in King County, Washington, USA
Statistical data on the inside, price sold, grade, condition, year of construction and renovation, square feet for living and lot, location

Goals:
- How can we identify poor neighbourhoods?
- How can the life of people there be improved?
(-> renovate the buildings)

Hypothesis 0:

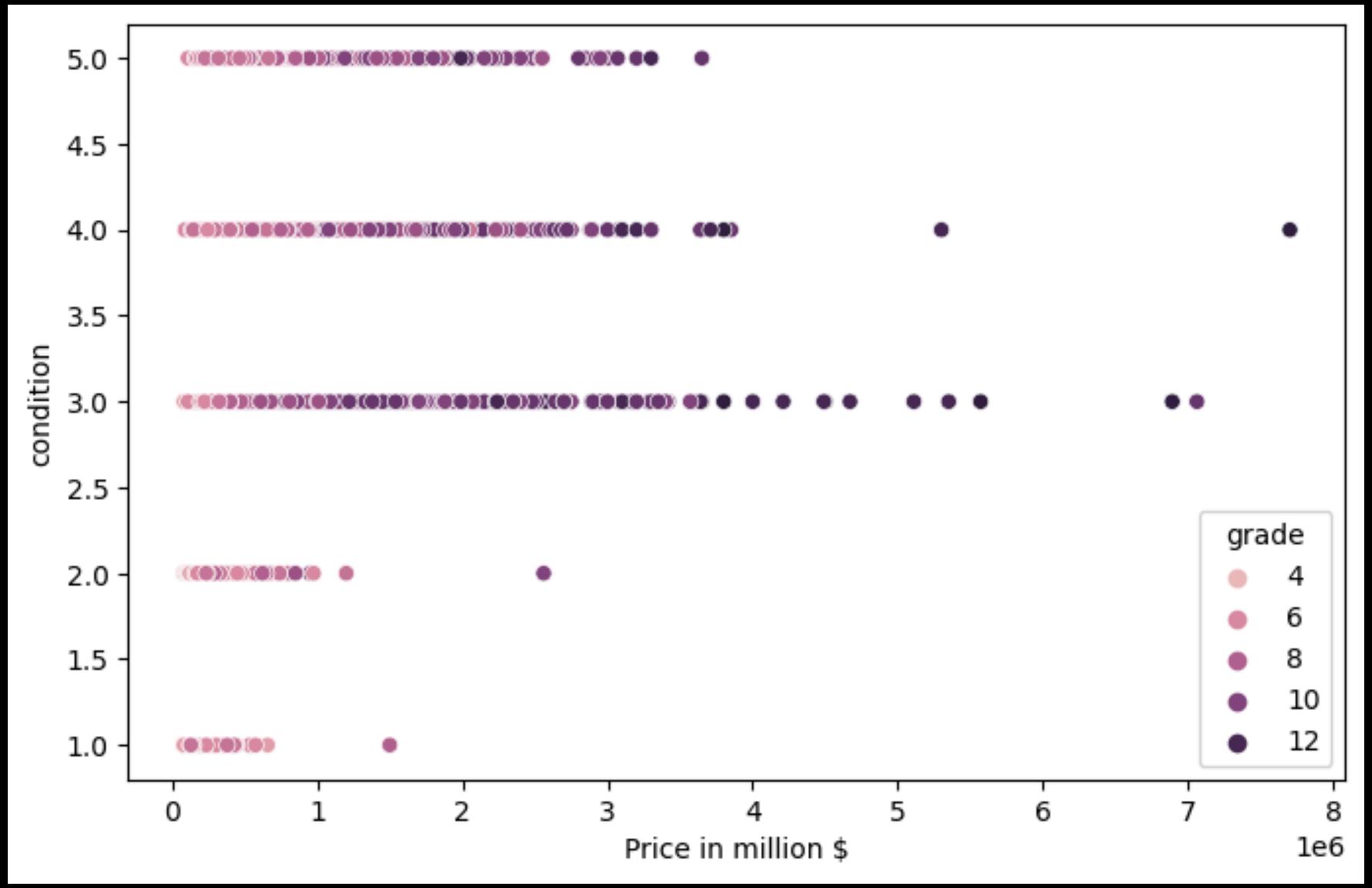
The more living space a house has, the stronger the price will grow



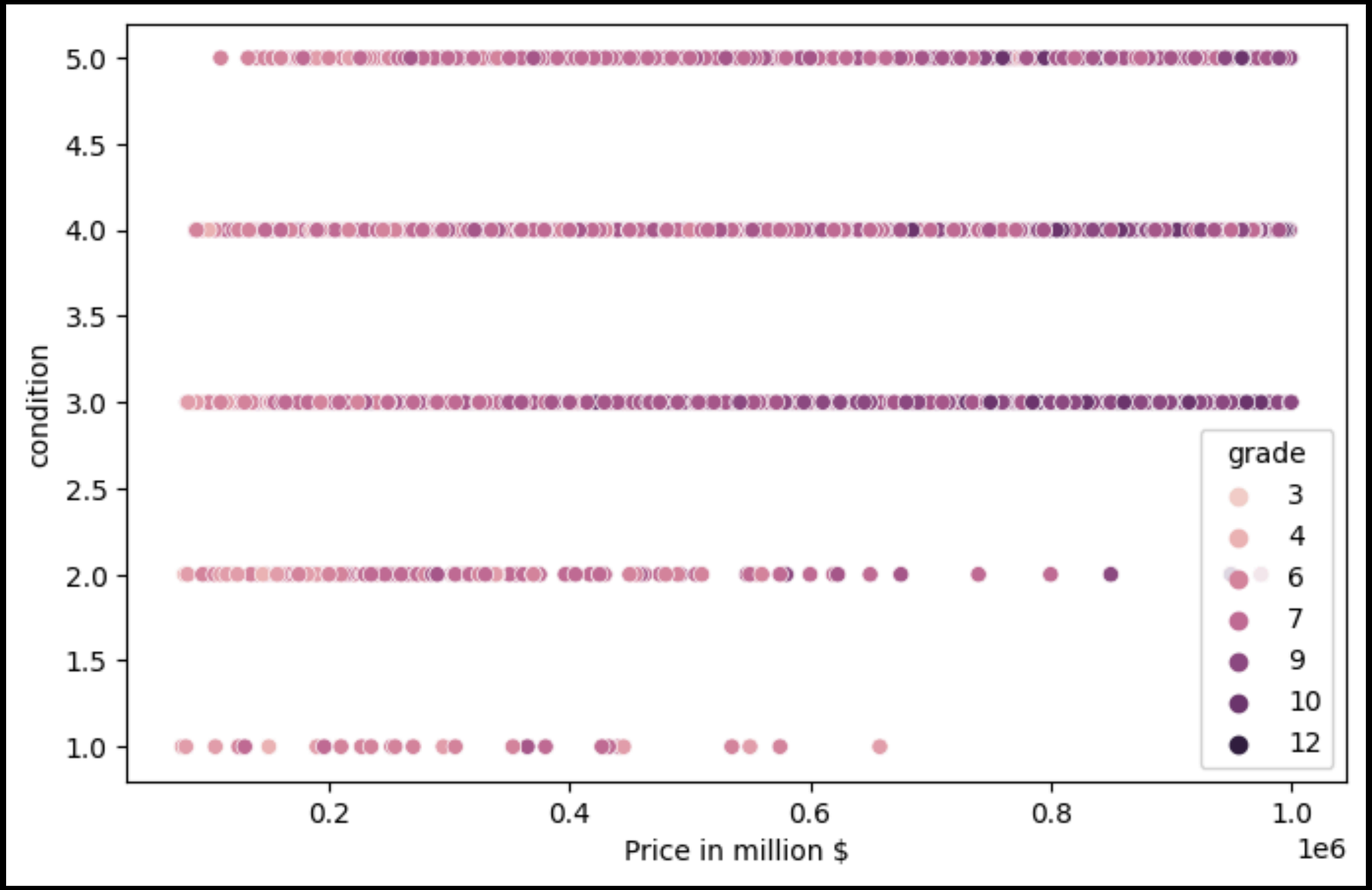
- there is a bottom line and top line for the proportion between price & space available
- both price and space seem to have influence on the grade

Hypothesis 1:

Poor neighbourhoods got low prices, with low grades and poor condition



- distribution is heavily skewed to the right
- budget is small, so lets discard everything above $ 1M



- higher grades concentrate in higher price range still
- our focus objects seem to concentrate in lower price range

This seems to actually be synch with our goal, buy cheap houses, renovate them to improve grade and price.

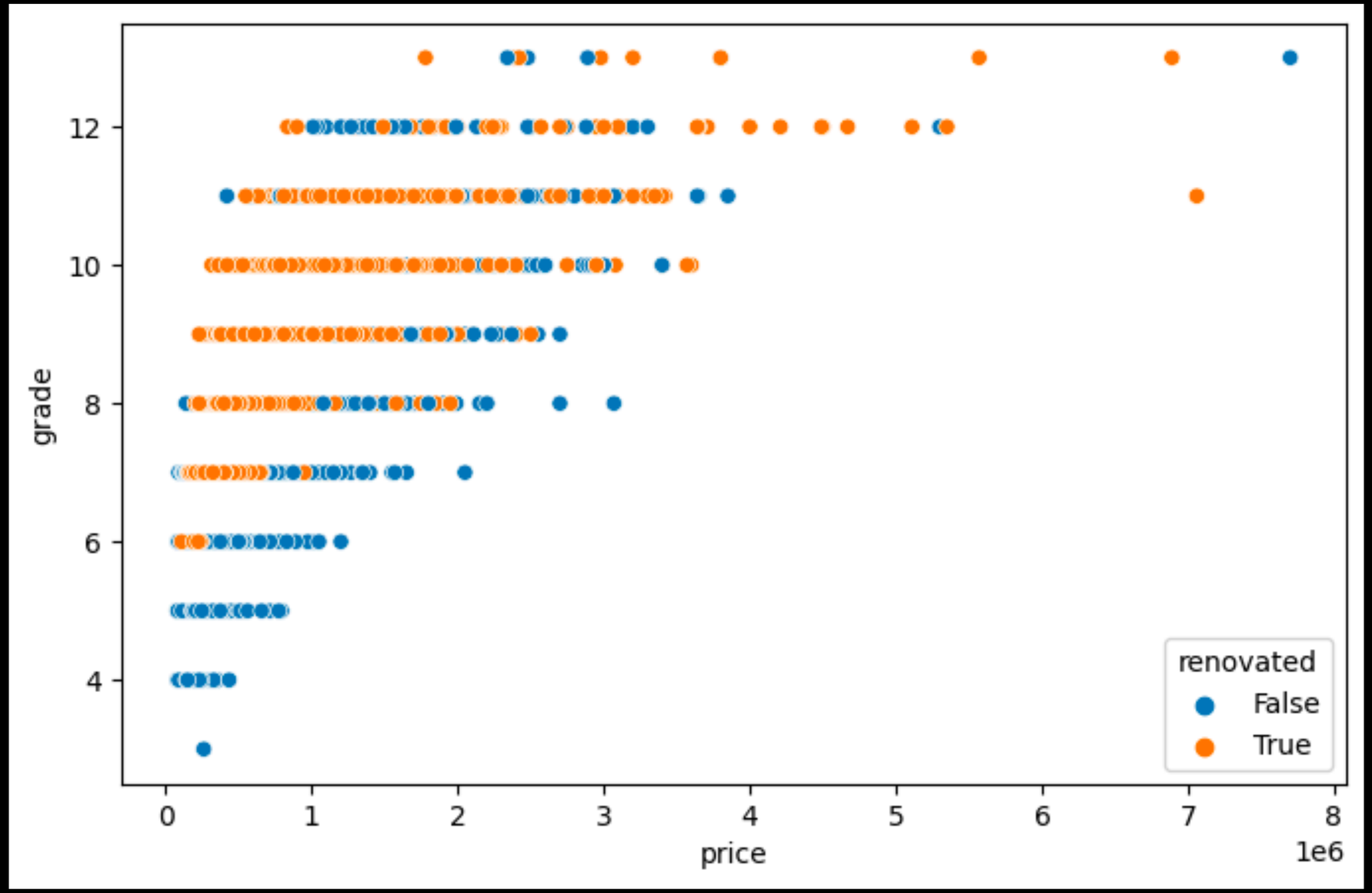
Hypothesis 2:

Renovated houses have higher prices and grades than not renovated

What’s a renovated house?

According to the American Real Estate Society a house should be renovated/remodeled every 15-20 years.

-> We consider houses constructed or renovated within the last 20 years to be a “renovated house”



- renovated houses look like they both got higher prices and grades

	Not renovated	Renovated	Increase
average house price (mean)	$ 503954.52	$ 633493.94	$129539.42 = 25.7 %
average house grade (mean)	7.395868194104775	8.329922429443803	0.93 grade = 12.6%

A renovation does significantly increase the value of a house!

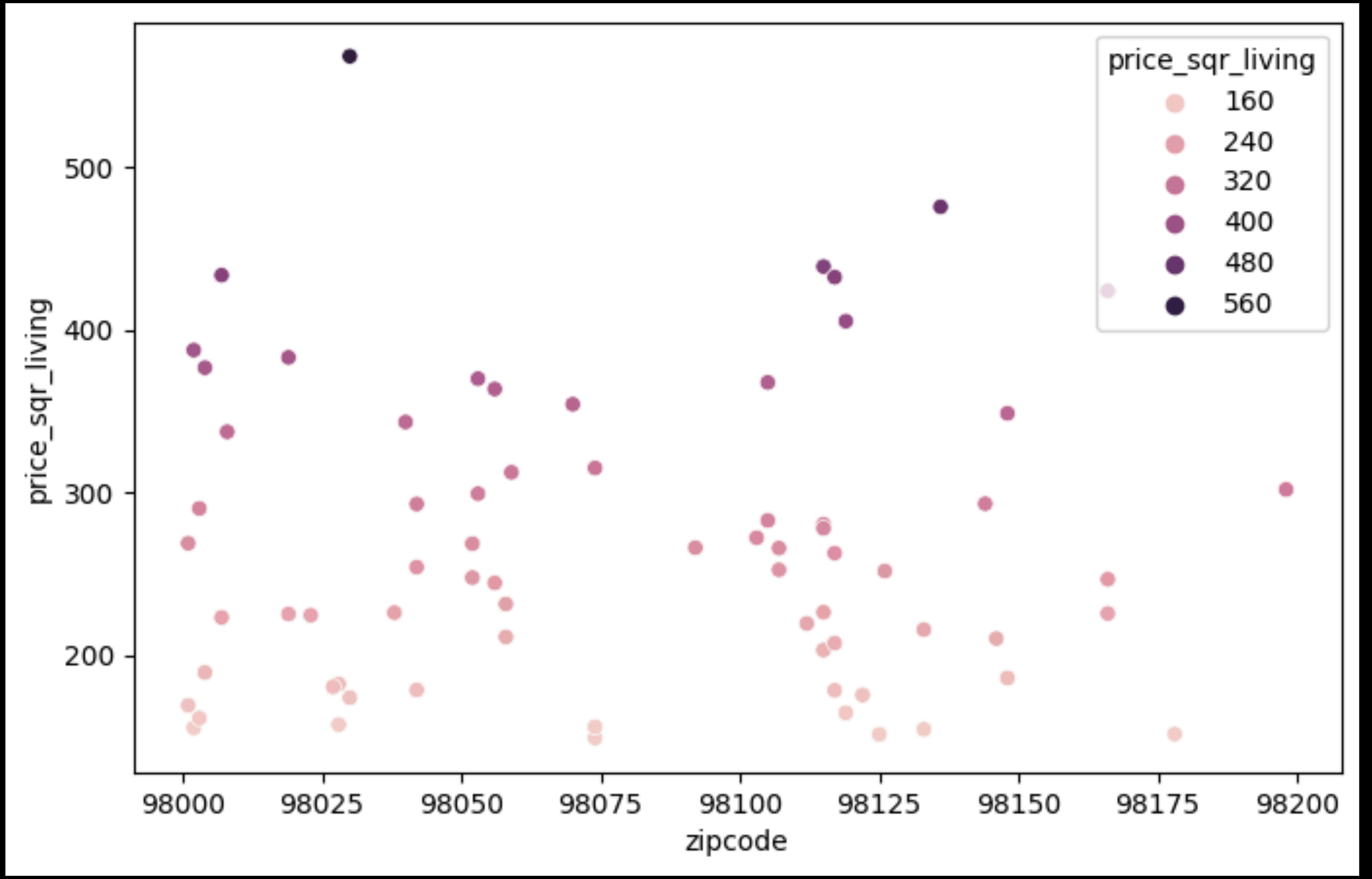
Hypothesis 3:

There is a correlation between price per square feet and zip code

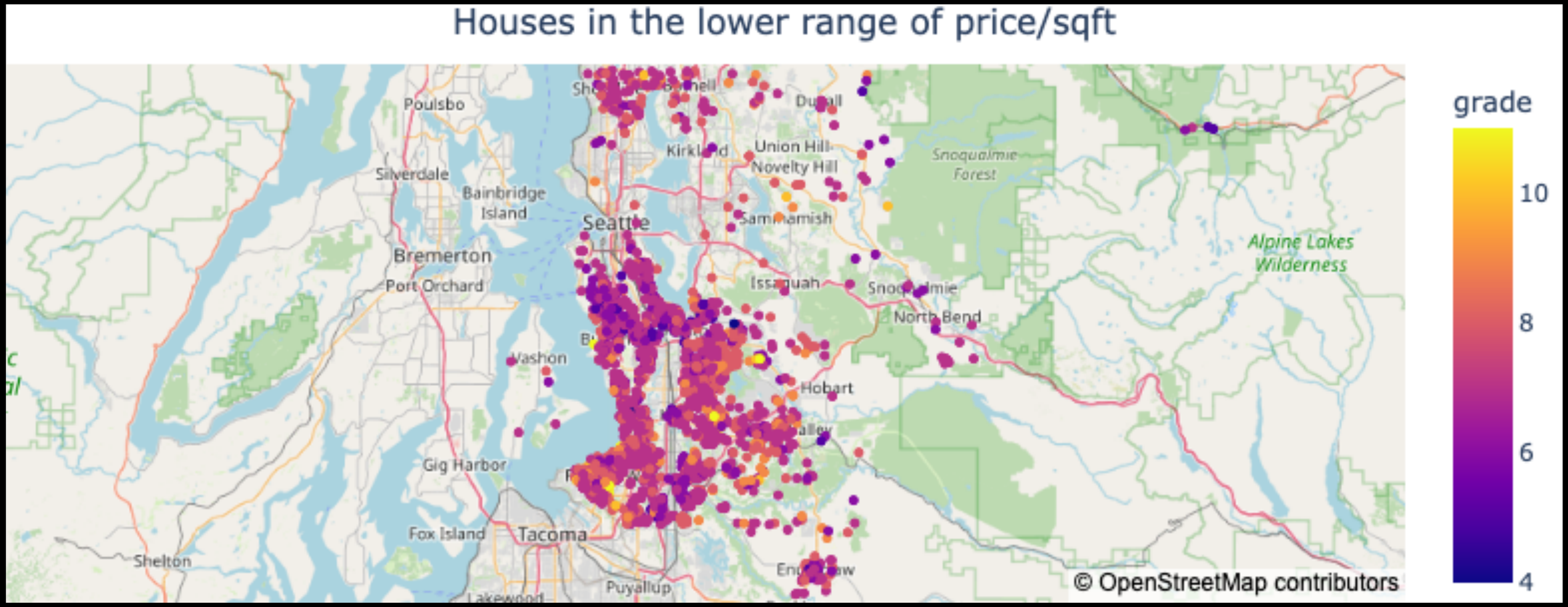
In a poor neighbourhood the properties will probably have a similar price and size.
-> are there zip codes aka areas that generally got low prices?

- Calculate the price per sqft for living space > ratio makes different sizes comparable
- group our data by the zip codes and get the mean for each zip code

	zipcode	price_sqr_livi
13	98023	148.922
1	98002	151.174
0	98001	151.348
20	98032	154.220
18	98030	155.156
...	...	...
53	98119	432.352
47	98109	433.559
48	98112	438.878
3	98004	475.610
24	98039	568.242


price_sqr_living
160
240
320
400
480
560
500
400
300
200
price_sqr_living
98000
98025
98050
98075
98100
98125
98150
98175
98200
zipcode

Several zip codes with low average sqft price
- > stakeholder focus on these!



- unrenovated houses in the lowest 10% of price per sqft
- grade is displayed by colour