



GAINESVILLE, FLORIDA | JAN 2017 - JAN 2019

RESIDENTIAL REAL ESTATE SEASONALITY

By: Scott Fischer | Dec 13, 2019

About Seasonality

What is it?

Seasonality is a belief amongst real estate professionals that selling a property earlier in the year will yield a higher price.

This is because there is a perceived increase in sales activity during the spring and summer months; more buyers are active earlier in the year and putting your property in front of more clients will get you the best value.

Seasonality = More Activity

Determining Market Value

In Real Estate, property value is determined by a loose metric called market value. Market value is believed to be determined by two things:

- 1.) The sale price of similar properties
- 2.) The demand on the market for property

If the Seasonality does have an impact on market activity, market intuition indicates it should have an impact on pricing.



Impact of an Active market

FOR BUYERS

Properties you are interested in put into a contract for purchase before you get to even see them creates a feeling of urgency, especially if working under time constraints.

FOR SELLERS

Multiple offers come to the table and a lot of interest will usually make negotiations more rigid as there is more demand, and sometimes buyers will compete amongst themselves to purchase a highly desired property.

A lack of Evidence

Seasonality is just a belief

Even though the increase in market activity is noticeable by agents, there isn't any data to support the assumption that seasonality impacts sales price.

Hypothesis



Null Hypothesis

There is no significant difference in sales price relative to season.

Alternative Hypothesis

There is a significant difference in sales price relative to season.

Hypothesis

Testing the Hypothesis

Testings Two Variables for Significance

1.) Total Sales Price

Price per square foot is important second variable to study, as it gives a good idea of total value of the property.

2.) Price Per Square Foot

For example, two houses may cost \$150,000, but one may be 2000 sqft and the other 1000 sqft - which make for very different living conditions.

Data Source

County Government

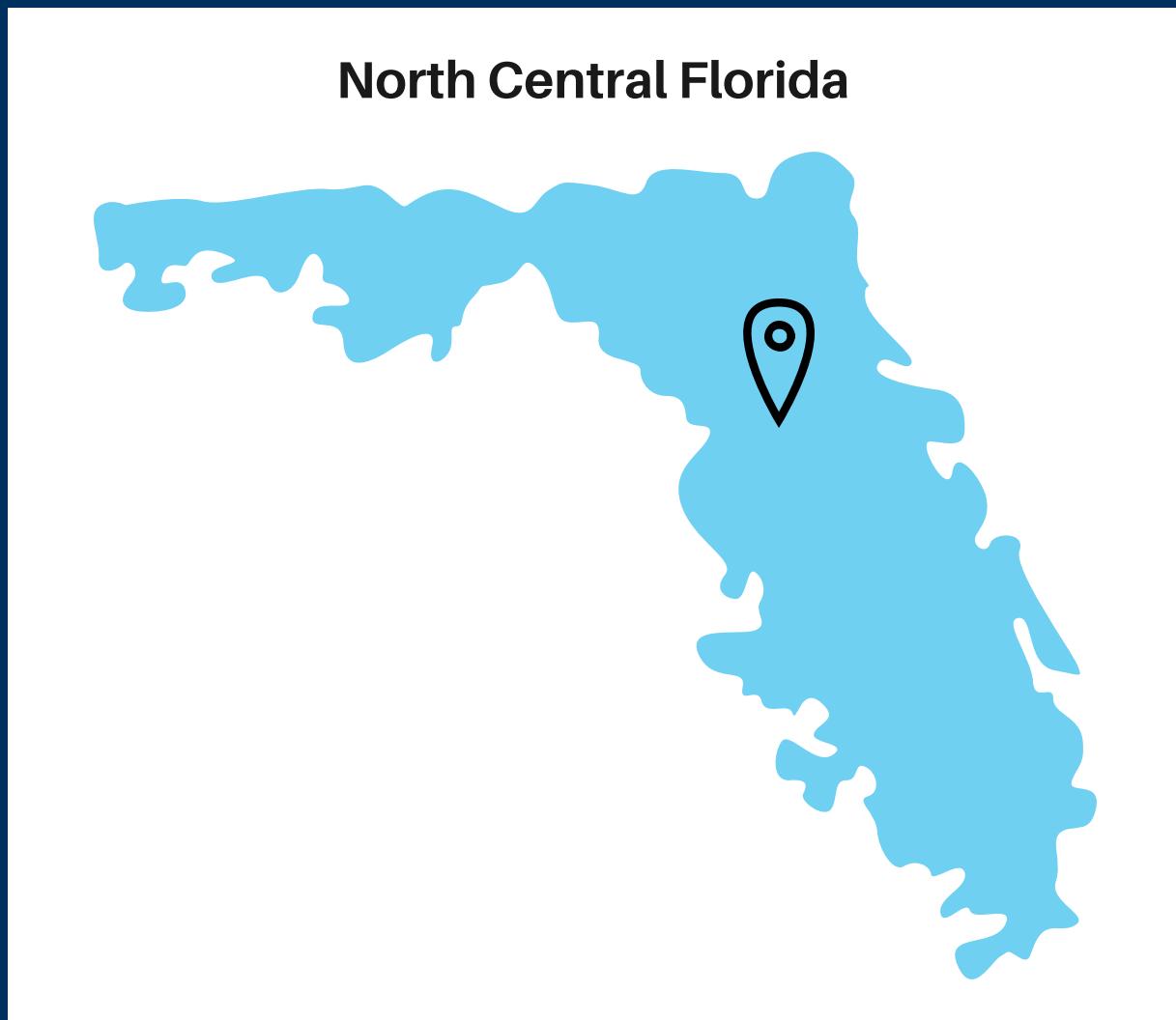
The data set I'm using comes from Alachua County Property Appraiser, the county level government agency that handles all Gainesville transactions.

Since this hypothesis is only concerned with residential sales, any intrinsically non-residential properties, including investment multifamily, is filtered out of the final data set.

4515
Observations

35
Variables

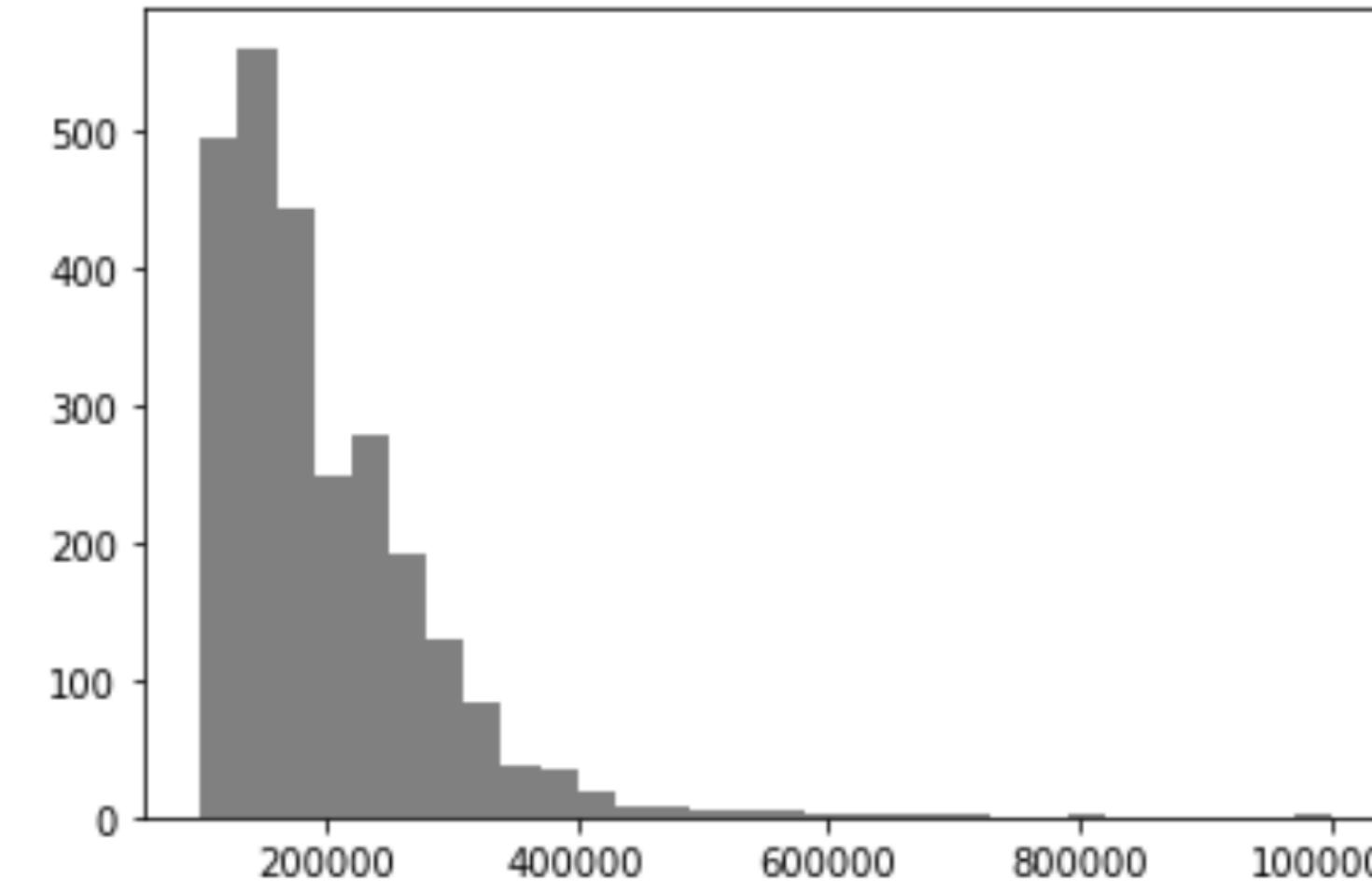
2 years
Jan 2017 - 2019



Working with the Data

Important Observations And Market Details

All Residential Sales



HIGH PRICE OUTLIERS

These represent "portfolio" sales, or a sale of a group of properties, and are recorded multiple times for each deed. This set needs to be de-duplicated and filtered.

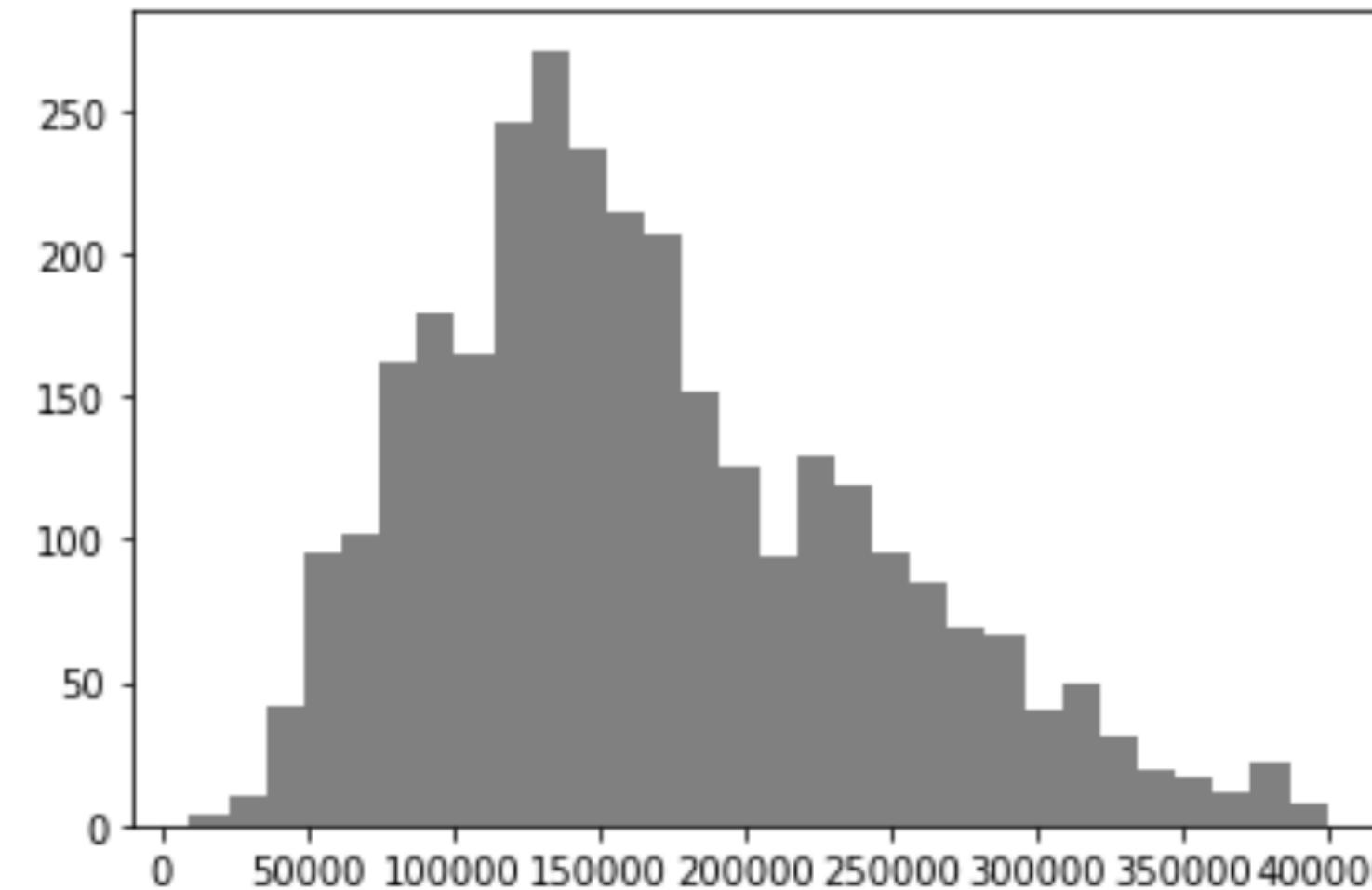
LOW END OUTLIERS

Some sales are listed for \$0 - \$100 or some other nominal amount. These represent property ownership transfers that are abnormal, and only account for ~3-4% of transactions.

Working with the Data

Important Observations And Market Details

Filtered Residential Sales

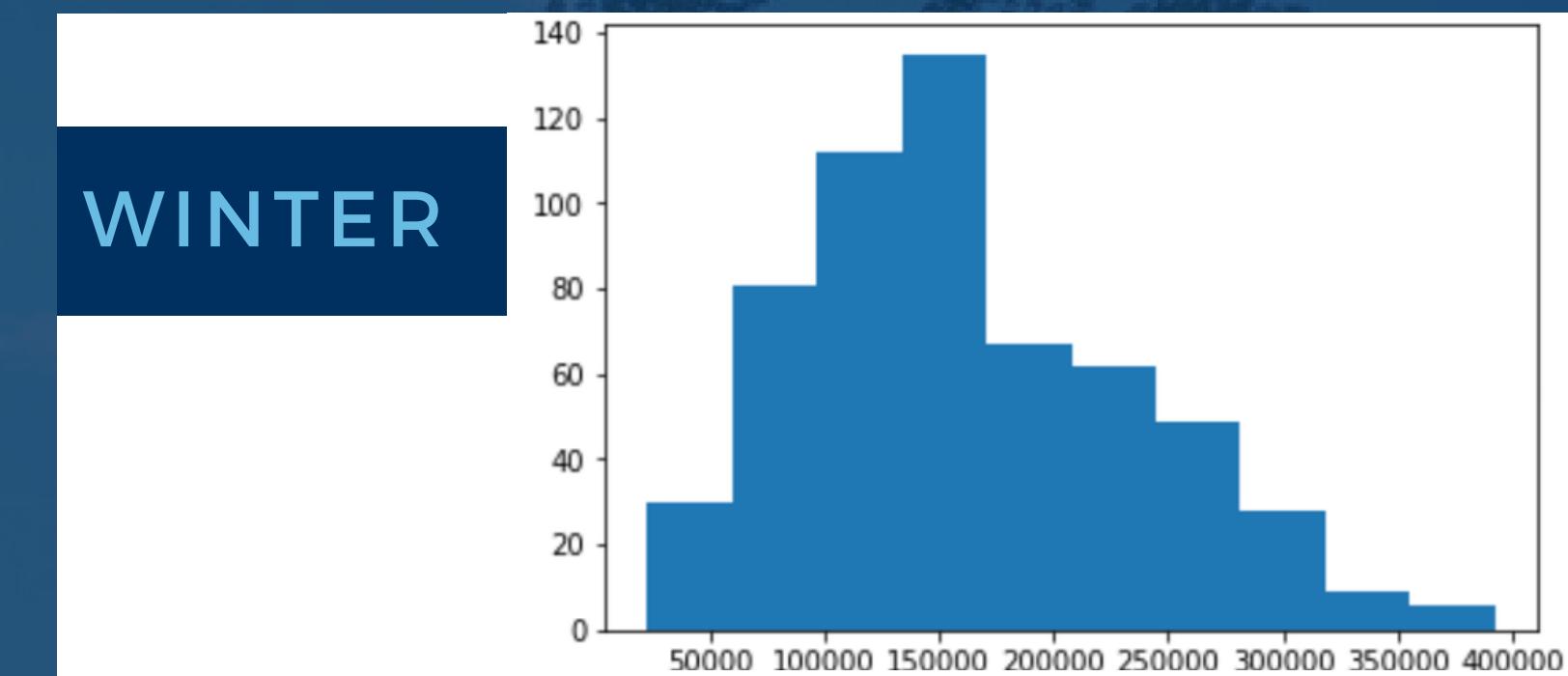
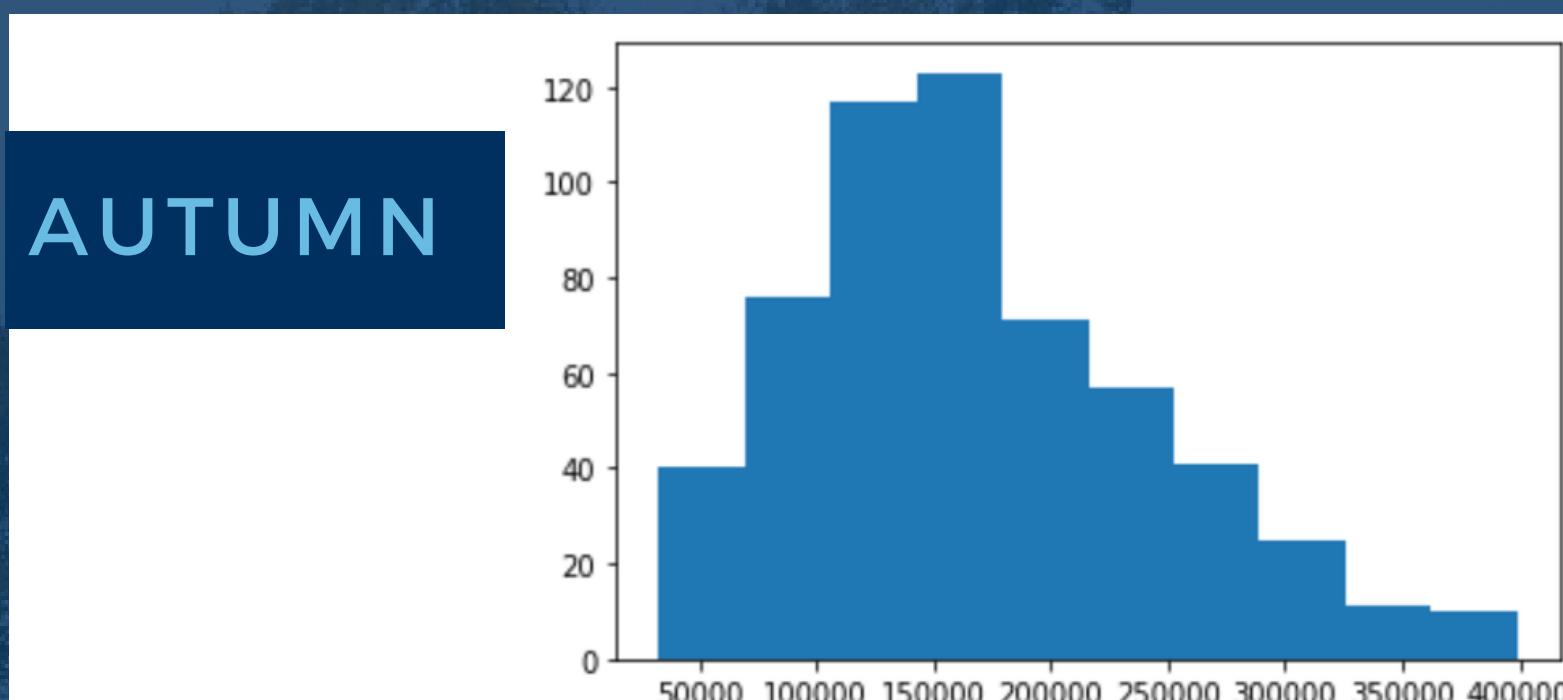
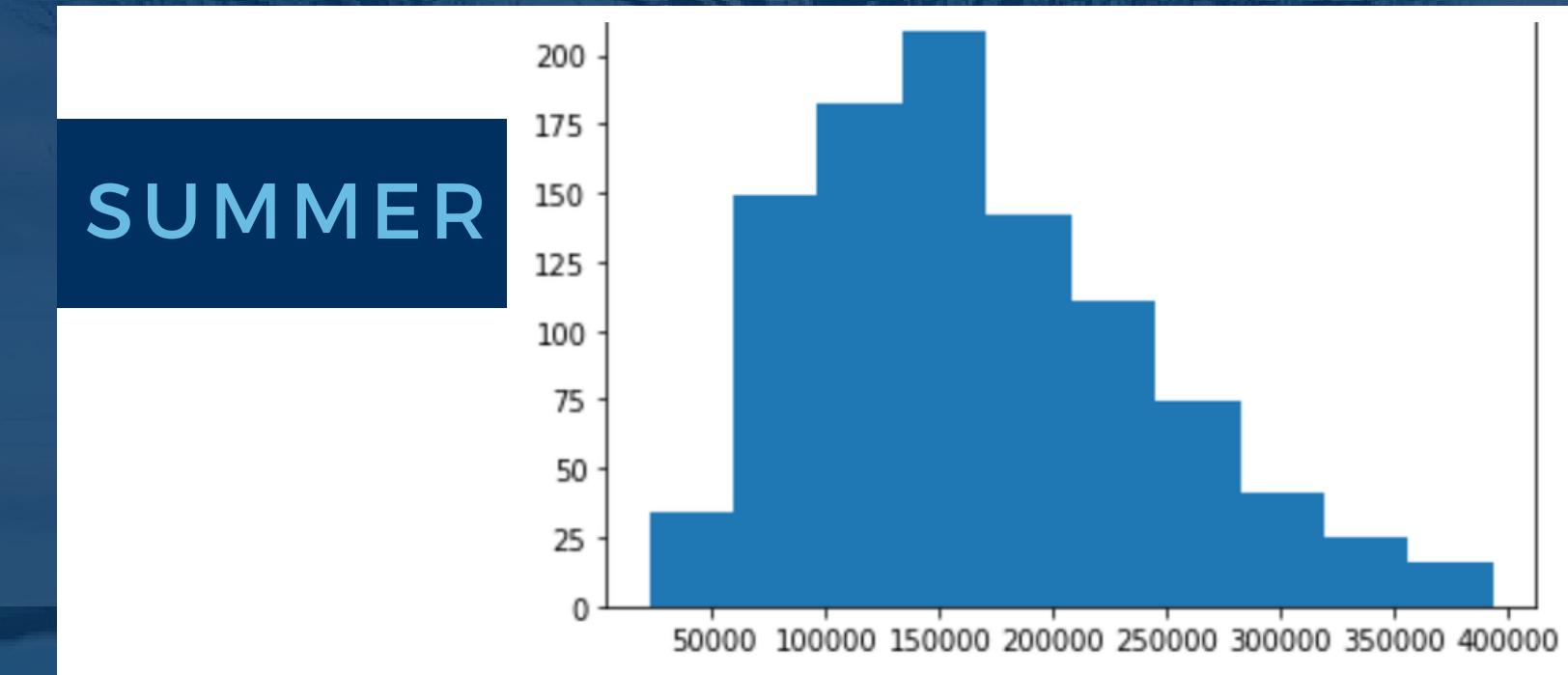
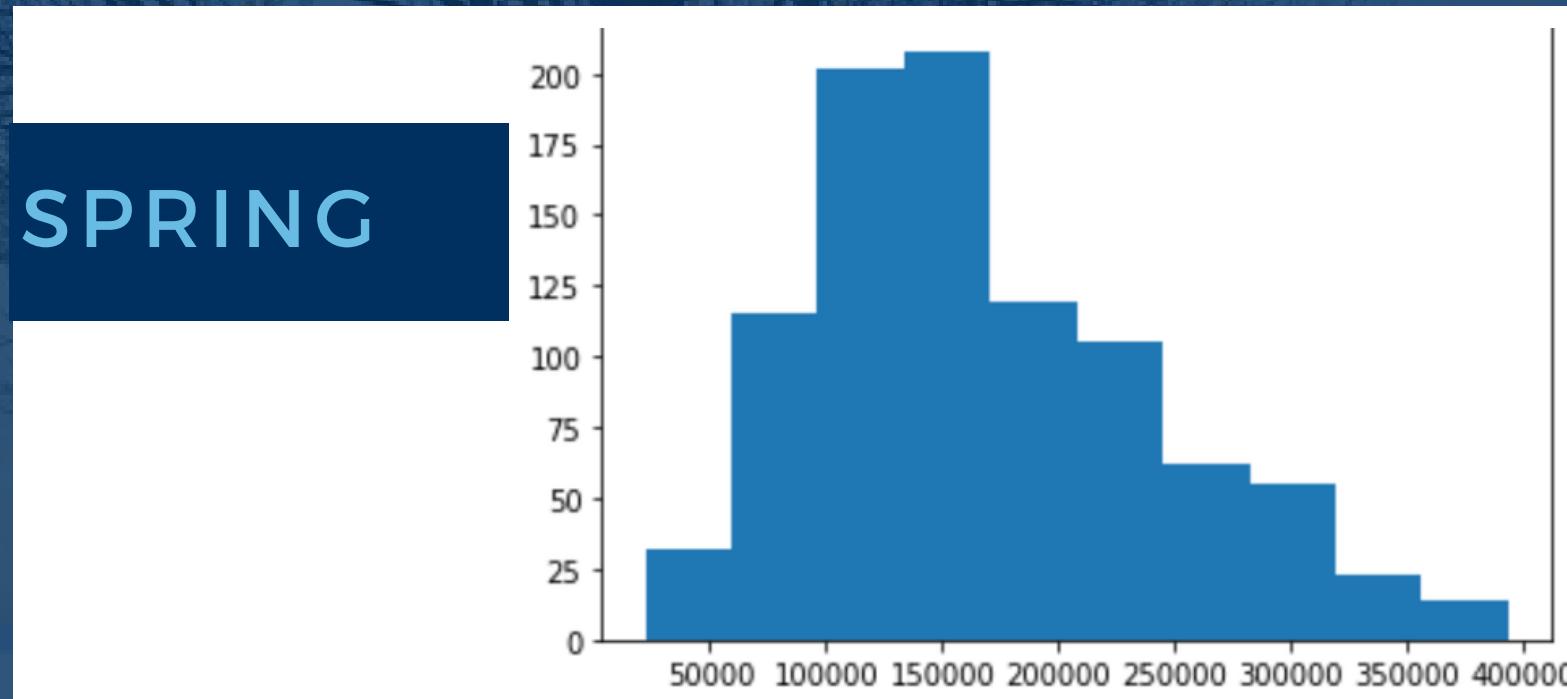


A MOSTLY NORMAL DISTRIBUTION

Testing for normality: Skewness, Kurtosis, and Shapiro test look good! Distribution is normal. There is some slight skew to the right, but nothing concerning according to the tests.

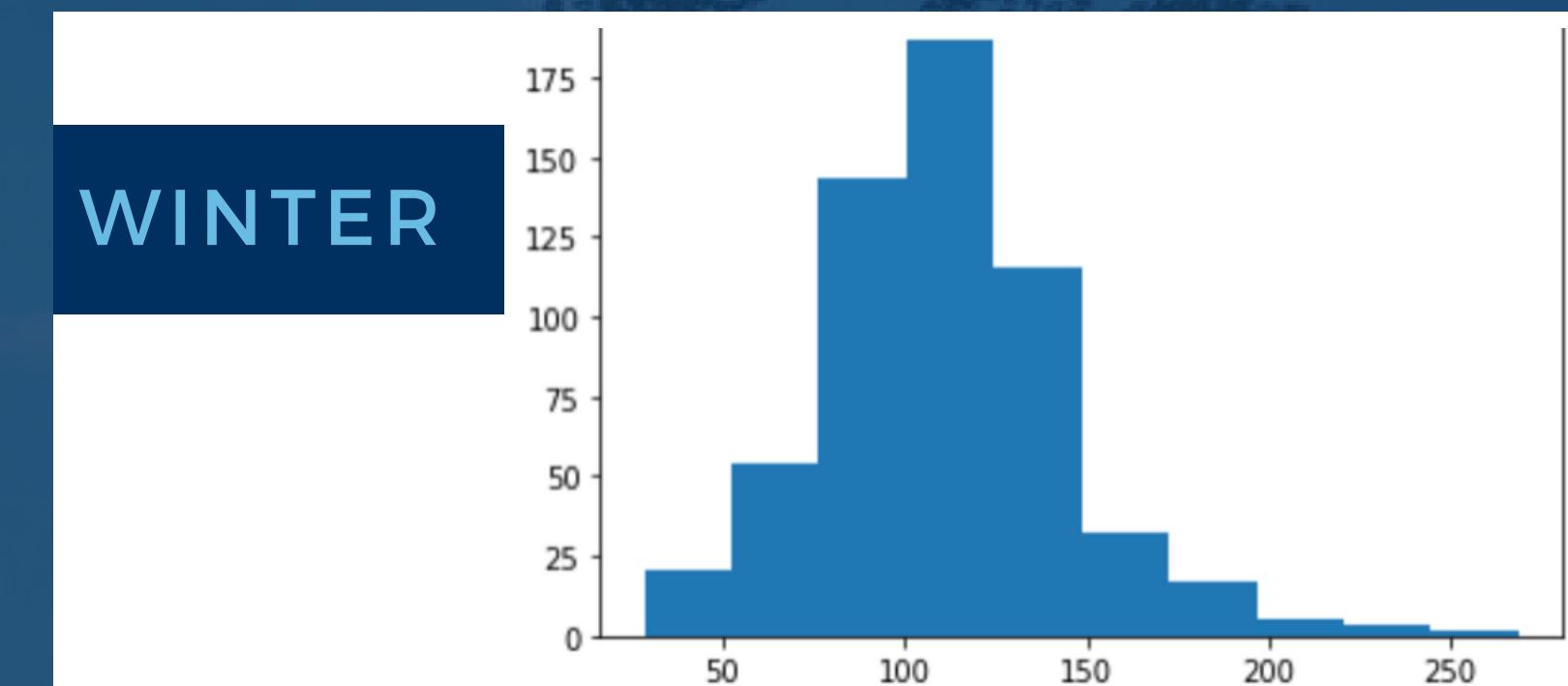
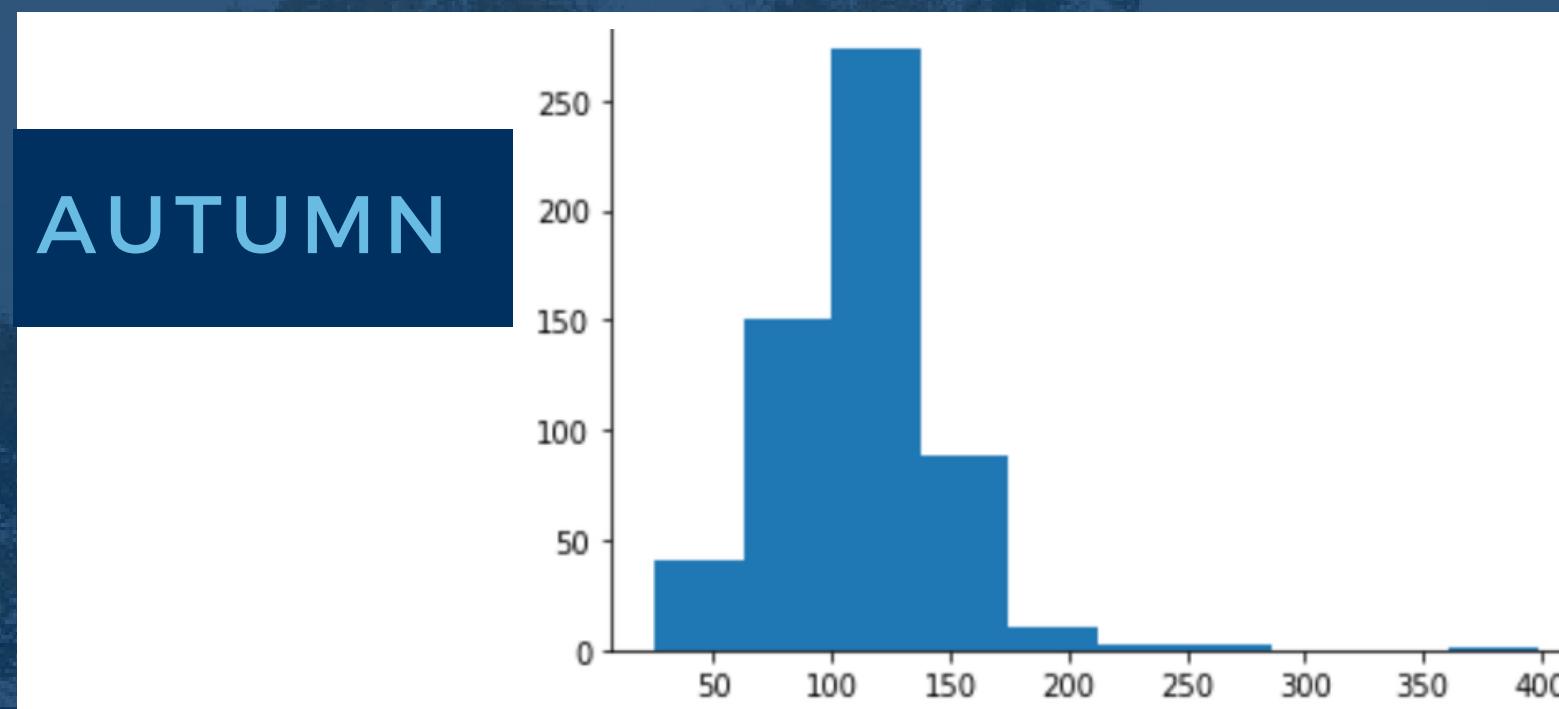
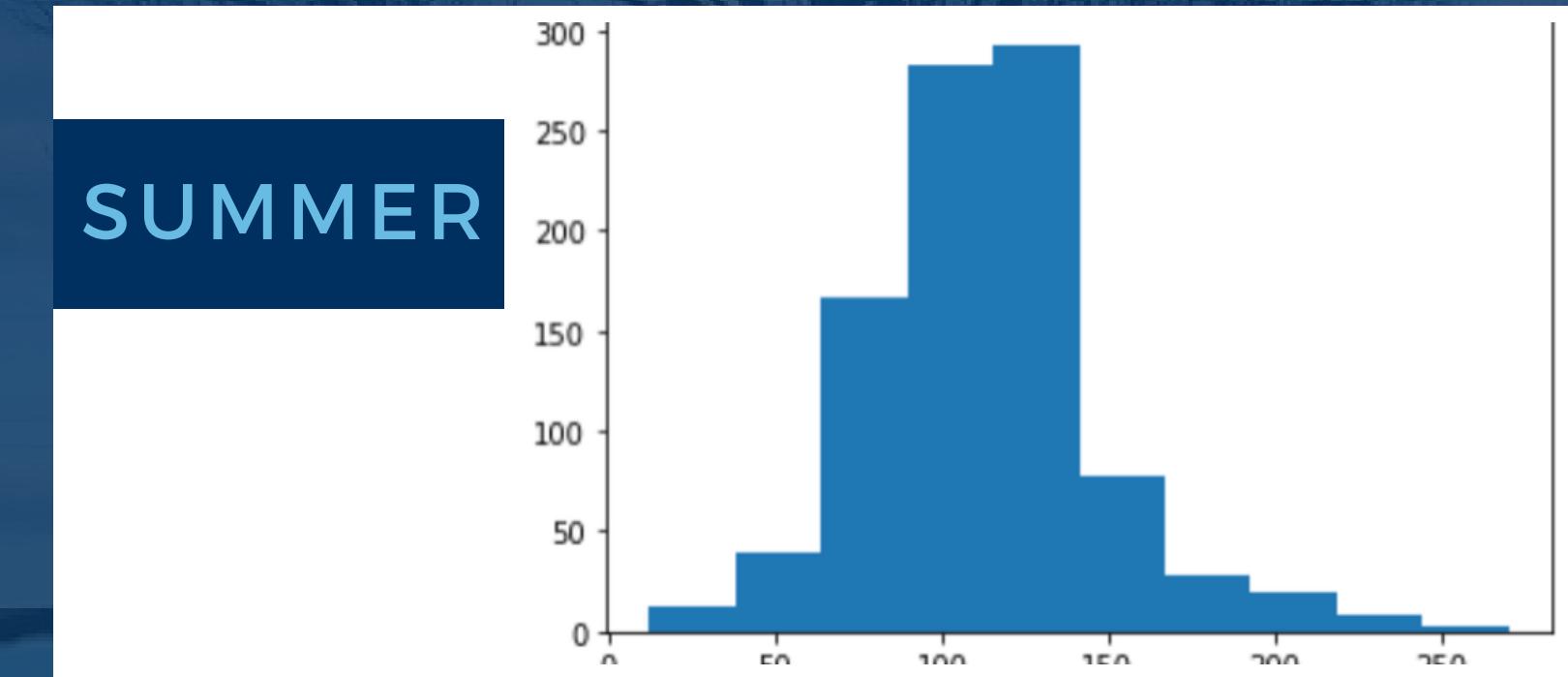
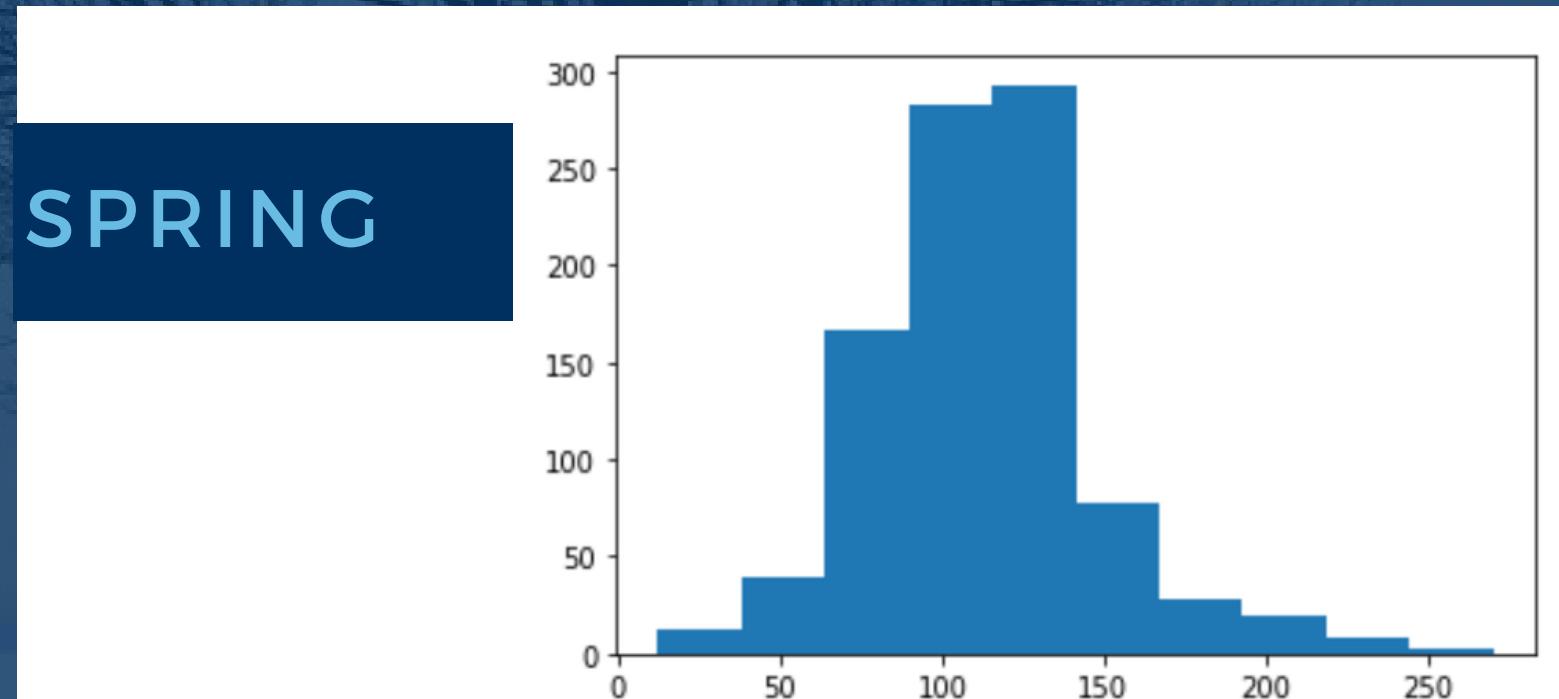
SEASONALITY DATA

BY TOTAL SALES PRICE



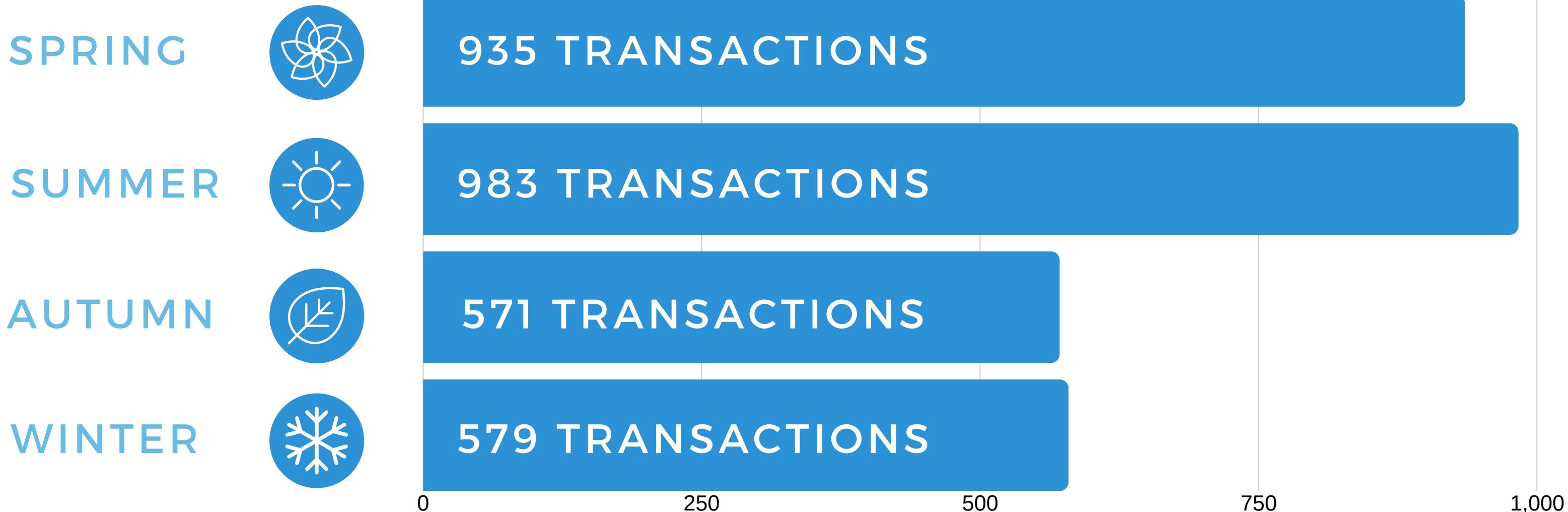
SEASONALITY DATA

BY PRICE PER SQUARE FOOT



AMOUNT OF ACTIVITY PER SEASON

Looks like agent intuition was correct about the first portion of the year having substantially more transactions than later months.



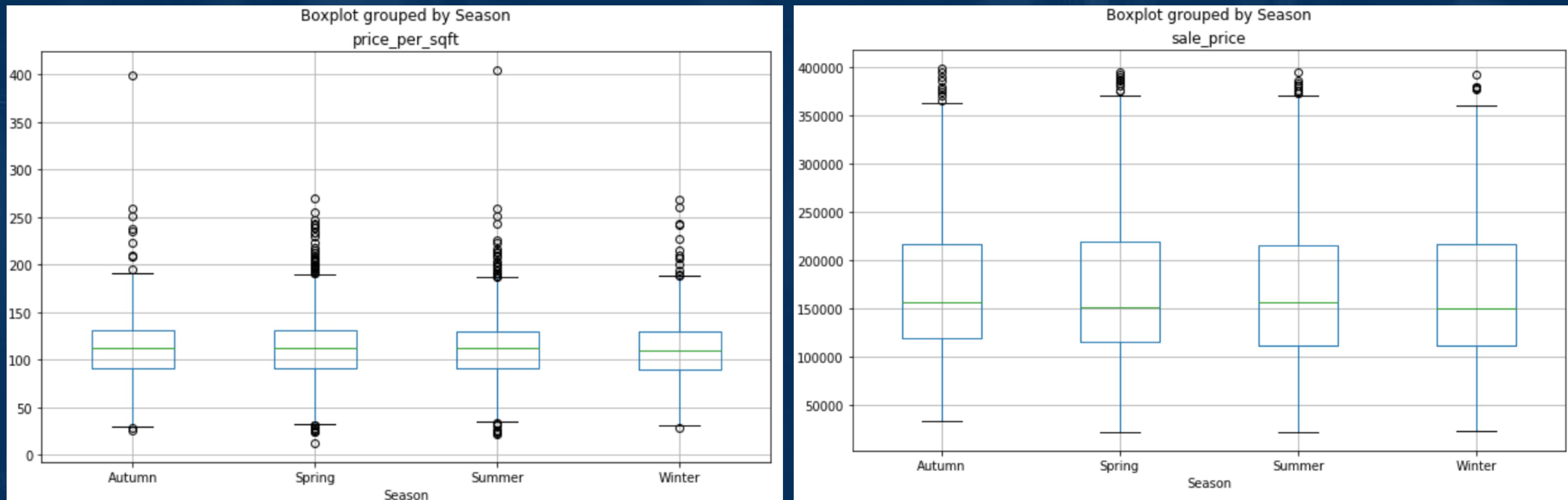
Now to test for significance

Our distributions are normal for all subsets of seasonality and it's obvious there is a significant difference in the quantity of sales that occur by season.

We are now ready to test our null Hypothesis using the Anova and Tukey statistical testing methods

First Look at the Means

For Sales Price and Price Per Square Foot



Test Results

Total Sales Price



Reject Null

P-Value Adj

Tukey Summary

Group 1 / Group 2

Price / Square Foot



P-Value Adj

Reject Null

FALSE

0.9

Autumn / Spring

0.9

FALSE

FALSE

0.9

Autumn / Summer

0.9

FALSE

FALSE

0.4515

Autumn / Winter

0.8937

FALSE

FALSE

0.9

Spring / Summer

0.8764

FALSE

FALSE

0.5699

Spring / Winter

0.5951

FALSE

FALSE

0.71

Summer / Winter

0.9

FALSE

Anova Results

Total Sales Price

statistic=0.8292

pvalue=0.4776

Anova Results

Price Per Square Foot

statistic=0.6104

pvalue=0.6082

Unable to Reject the Null Hypothesis

The Anova test and Tukey test for both total sales price and price per square foot did not achieve statistically significant p-values.

Thus, there is no significant evidence proving that seasonality effects sales price.

Final Thoughts

AN UNEXPECTED RESULT

It turns out seasonality *does* impact the number of transactions, but that it *doesn't* significantly impact sales price. Here are some thoughts on this data set based on these findings:

- This data doesn't account for the quality of the home
 - lesser quality homes without updates could go for more earlier in the year due to perceived demand
- Seasonality could impact the difference between asking and received
 - with more activity there is less negotiation
- We don't know when these homes were originally put on the market
 - time on market would give a clearer indication on if there is more demand during the busier time of year

(In order to answer the above, this data set would require additional data from the local MLS.)