Analysis Based on Data:

­**WeatherPy**

Using the API calls from openweathermap.org, generated a list of data for cities that were included in the csv file. Excluded the name of the cities that were not found using the for loop and created the Data Frame using Pandas.

**Inspect the data and remove the cities where the humidity >100%**

There were no cities in the data frame that had humidity higher than 100.

**Plotting the Data:**

Latitude vs. Temperature Plot

* Temperature increases as latitude approaches 0 from negative range and slowly drops as the latitude increases to from 0 to positive range.

Latitude vs. Humidity Plot

* There are plots for values between 60- 100 regardless of latitude when looking at the graphs.

Latitude vs. Cloudiness Plot

* Data seems to be scatter for Cloudiness for all latitude values. Hard to make a correlation on if Latitude has effect on Cloudiness.

Latitude vs. Wind Speed Plot

* Windspeeds tend to be below 20 for majority of the places. Except for anomaly where the wind speed is greater than 40 for latitude value around 65.

**Linear Regression:**

Northern Hemisphere – Max Temp vs. Latitude

* For northern Hemisphere, max temperature decreases as the latitude increases, matches the predicted linear regression

Southern Hemisphere – Max Temp vs. Latitude

* Max Temperature increases as latitude decreases (approaches 0), matches the predicted linear regression

Northern Hemisphere – Humidity vs. Latitude

* The projected prediction is that humidity should increase as latitude increases, the data seems to be scatter but does follow the pattern as we see less plot points below 60 for humidity as latitude increases. R value suggestion low correlation as the R-value is closer to 0.

Southern Hemisphere – Humidity vs. Latitude

* The plots are scatter and predicted linear regression is not close. The R-value suggest that no correlations.

Northern Hemisphere – Cloudiness vs. Latitude

* The plots are scatter and predicted linear regression is not close. The R-value suggest that there are no correlations.

Southern Hemisphere – Cloudiness vs. Latitude

* The plots are scatter and predicted linear regression is not close. The R-value suggest that there are no correlations.

Northern Hemisphere – Wind Speed vs. Latitude

* The outlier in 65 latitude mostly cause the predictability to shift. The R-value also does suggest that there is no correlation.

Southern Hemisphere – Wind Speed vs. Latitude

* Linear regression cannot be used to predict windspeed as the great number of outliers. The R-value also does suggest there is no correlation.

**VacationPy**

For Vacation, I filtered the Data frame using the condition that needed to be met. From the csv file that created in WeatherPy assignment. The criteria were to look for location that had max temperature lower than 80, and higher than 70, windspeed less than 10, and cloudiness less than 0. Then saved that filtered data in a variable. Using Google API to display the hotels that can be found in 5000 meters for the specified location. The data can be seen on the jupyter notebook for more details.