Python API Homework - What's the Weather Like?

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Part-I: WeatherPy:

Analysis and Observations:

1. It is evident that Temperature increases as we go towards the Equator (please refer to Latitude vs. Temperature Plot). As we move away of the equator, temperature starts dropping.

2. It can be observed from the plots there is not much correlation between latitude with humidity, latitude with cloudiness and latitude with wind speed. However, wind speeds goes over 15 mph on either direction of the equator.

3. By looking at the "Southern Hemisphere - Max Temp vs. Latitude Linear Regression" regression results, it is evident that results good co-relation with an R-square value of 0.77. More warmer cities are close to the equator. It is also interesting to know that we will experience colder as we move away from the equator with higher latitude (please refer to:"Northern Hemisphere - Max Temp vs. Latitude Linear Regression" and co-relation coefficient value.

Part-II: VacationPy:

We have analyzed the global weather trend based on the dataset and created heatmap humidity. Then, we narrow down the cities with wind speed less than 10 mph, cloudiness equals to 0 and max temp between 60 and 80 that is comfortable for a wonderful vacation.

Based on the analysis, here are the observations for making a vacation plan to the cities:
1. Temperature: between 70-80 Degree Fahrenheit
2. Wind Speed: Less than. 5 miles per hour
3. Cloudiness: Cities with Zero cloudiness
4. The Hotel Heat Map with location will also allow us to decide on the city for vacation