This Assignment was divided in two segments:

In the first segment, we are visualizing weather of random cities across the world with varying distance from the equator by utilizing the CitiPy library and an API for Open Weather Map.

The final data will be saved (cities.py) and used for part 2 of this project where we use the same data to plan an ideal vacation.

**WeatherPy**

* We do not see a correlation in temperature vs. latitude relationship across all cities combined. However, this changes once we separate the data into Northern versus Southern hemisphere.
* There is a strong correlation between latitude and the maximum temperature (F) of northern and southern hemispheres.
* As we move closer to the equator from Northern or the Southern hemisphere there is a rise in temperature (F)

**VacationPy**

The final list/weather data retrieved in WeatherPy was used in creating a humidity heatmap for all cities.

Map

Description automatically generated

The last step was identifying cities good for a vacation based on ideal weather conditions.

We filtered the data frames based on following criteria:

* Cities with a max temperature lower than 80 degrees but higher than 70.
* Cities with wind speed less than 10 mph.
* Cities with zero cloudiness.
* Cities with humidity less than 75%

This filtered out 10 cities after which Google Places API query was used to find the first hotel for each city located within 5000 meters of its coordinates.

Hotel information for 2 out of 10 cities was not available and we dropped those rows.

With the final hotel list at 8 cities, we used the heatmap and plotted markers as mentioned below:

Map

Description automatically generated.