* **Task:** Collect and analyze weather data across cities worldwide.
* **Purpose:** PlanMyTrip will use the data to recommend ideal hotels based on clients' weather preferences.
* **Method:** Create a Pandas DataFrame with 500 or more of the world's unique cities and their weather data in real time. This process will entail collecting, analyzing, and visualizing the data.

1. **Collect the Data**
   * Use the NumPy module to generate more than 1,500 random latitudes and longitudes.
   * Use the citipy module to list the nearest city to the latitudes and longitudes.
   * Use the OpenWeatherMap API to request the current weather data from each unique city in your list.
   * Parse the JSON data from the API request.
   * Collect the following data from the JSON file and add it to a DataFrame:
     + City, country, and date
     + Latitude and longitude
     + Maximum temperature
     + Humidity
     + Cloudiness
     + Wind speed
2. **Exploratory Analysis with Visualization**
   * Create scatter plots of the weather data for the following comparisons:
     + Latitude versus temperature
     + Latitude versus humidity
     + Latitude versus cloudiness
     + Latitude versus wind speed
   * Determine the correlations for the following weather data:
     + Latitude and temperature
     + Latitude and humidity
     + Latitude and cloudiness
     + Latitude and wind speed
   * Create a series of heatmaps using the Google Maps and Places API that showcases the following:
     + Latitude and temperature
     + Latitude and humidity
     + Latitude and cloudiness
     + Latitude and wind speed
3. **Visualize Travel Data**

Create a heatmap with pop-up markers that can display information on specific cities based on a customer's travel preferences. Complete these steps:

* + Filter the Pandas DataFrame based on user inputs for a minimum and maximum temperature.
  + Create a heatmap for the new DataFrame.
  + Find a hotel from the cities' coordinates using Google's Maps and Places API, and Search Nearby feature.
  + Store the name of the first hotel in the DataFrame.
  + Add pop-up markers to the heatmap that display information about the city, current maximum temperature, and a hotel in the city.