**Part 1: Analyze and Explore the Climate Data**

In this section, you’ll use Python and SQLAlchemy to do a basic climate analysis and data exploration of your climate database. Specifically, you’ll use SQLAlchemy ORM queries, Pandas, and Matplotlib. To do so, complete the following steps:

1. Note that you’ll use the provided files (climate\_starter.ipynb and hawaii.sqlite) to complete your climate analysis and data exploration.
2. Use the SQLAlchemy create\_engine() function to connect to your SQLite database.
3. Use the SQLAlchemy automap\_base() function to reflect your tables into classes, and then save references to the classes named station and measurement.
4. Link Python to the database by creating a SQLAlchemy session.

**IMPORTANT**

Remember to close your session at the end of your notebook.

Support Activities

Module 10- Day 2: Activities 5 and 6.

1. Perform a precipitation analysis and then a station analysis by completing the steps in the following two subsections.

**Precipitation Analysis**

1. Find the most recent date in the dataset.
   * Module 10: Day 3 – 1st 2 activities (hint: func.max)
2. Using that date, get the previous 12 months of precipitation data by querying the previous 12 months of data.
   * Pandas date function. (hint: from the most recent date, go back 12 months using timedelta(365)
3. Select only the "date" and "prcp" values.
4. Load the query results into a Pandas DataFrame. Explicitly set the column names.
5. Sort the DataFrame values by "date".
6. Plot the results by using the DataFrame plot method, as the following image shows:

#### Part 2: Design Your Climate App

* + MODULE 10: DAY 3 – ACTIVITY -10