

## Problem Statement:

Develop a weather application that allows users to input a city name and obtain real-time weather information for that location. The application should display current weather conditions, temperature, humidity, wind speed, and pressure. Additionally, it should provide a visual representation of weather information through icons and labels.

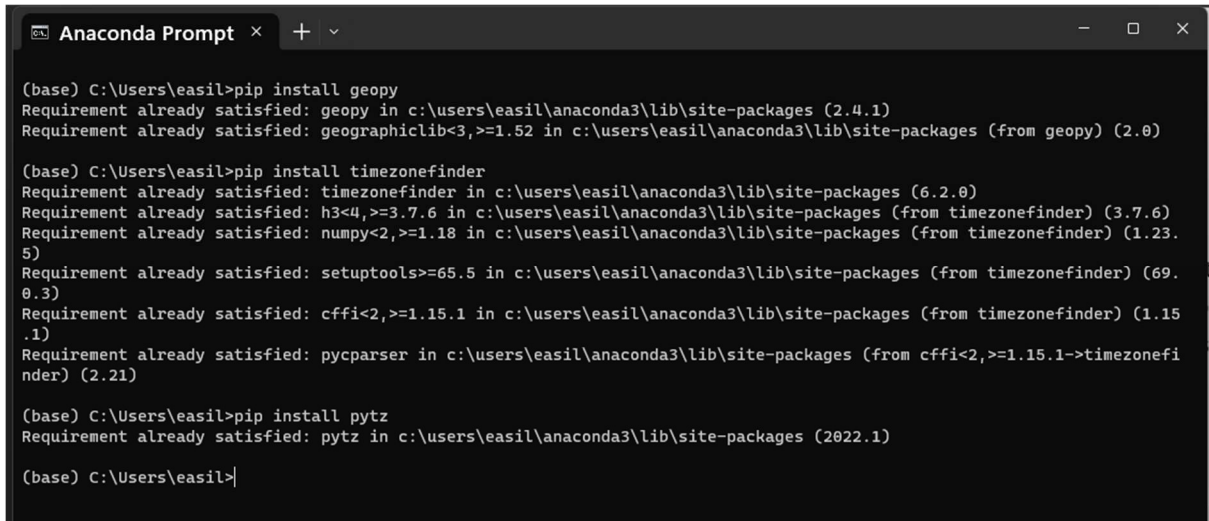
## Features:

Install this libraries in Anaconda prompt before running the Jupiter note book

Pip install geopy

Pip install timezonefinder

Pip install pytz

A screenshot of the Anaconda Prompt terminal window. The window title is "Anaconda Prompt". The terminal shows the following commands and their outputs:  
(base) C:\Users\easil>pip install geopy  
Requirement already satisfied: geopy in c:\users\easil\anaconda3\lib\site-packages (2.4.1)  
Requirement already satisfied: geographiclib<3,>=1.52 in c:\users\easil\anaconda3\lib\site-packages (from geopy) (2.0)  
  
(base) C:\Users\easil>pip install timezonefinder  
Requirement already satisfied: timezonefinder in c:\users\easil\anaconda3\lib\site-packages (6.2.0)  
Requirement already satisfied: h3<4,>=3.7.6 in c:\users\easil\anaconda3\lib\site-packages (from timezonefinder) (3.7.6)  
Requirement already satisfied: numpy<2,>=1.18 in c:\users\easil\anaconda3\lib\site-packages (from timezonefinder) (1.23.5)  
Requirement already satisfied: setuptools<=65.5 in c:\users\easil\anaconda3\lib\site-packages (from timezonefinder) (69.0.3)  
Requirement already satisfied: cffi<2,>=1.15.1 in c:\users\easil\anaconda3\lib\site-packages (from timezonefinder) (1.15.1)  
Requirement already satisfied: pycparser in c:\users\easil\anaconda3\lib\site-packages (from cffi<2,>=1.15.1->timezonefinder) (2.21)  
  
(base) C:\Users\easil>pip install pytz  
Requirement already satisfied: pytz in c:\users\easil\anaconda3\lib\site-packages (2022.1)  
  
(base) C:\Users\easil>

### 1. Search Functionality:

- Users can input the name of a city in the search box.
- Clicking on the search icon retrieves and displays the current weather information for the specified city.

### 2. Weather Information Display:

- Current time and date are displayed at the top of the application.
- Weather details such as temperature, condition, humidity, wind speed, and pressure are presented.
- Descriptive labels for each weather parameter are included for user understanding.

### 3. Visual Elements:

- Icons and images related to search, weather condition, and application branding are integrated.
- A bottom box with a distinct design adds aesthetics to the application.

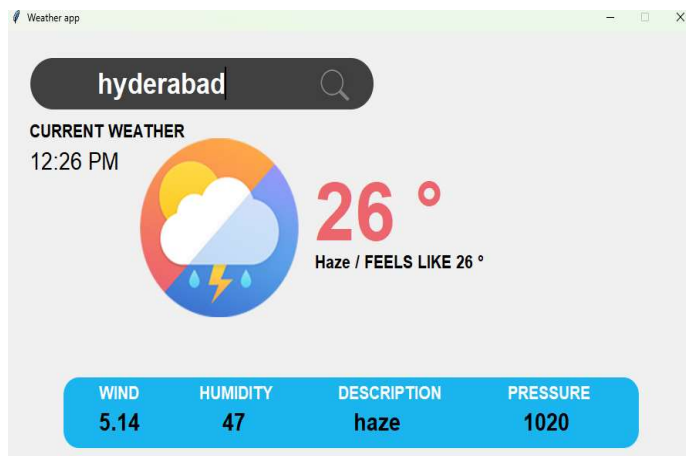
### 4. Error Handling:

- If the user enters an invalid city name or encounters any other error during the weather data retrieval process, an error message is displayed using a messagebox.

### Implementation:

#### 1. Search Functionality:

- Utilizes the **geopy** library to fetch the geographical coordinates (latitude and longitude) of the entered city.
- Retrieves the timezone based on the coordinates to display the current time.
- Uses the OpenWeatherMap API to get real-time weather data for the specified city.



#### 2. Weather Information Display:

- Parses the JSON response from the OpenWeatherMap API to extract relevant weather information.
- Displays temperature in both Celsius and Fahrenheit for user convenience.
- Utilizes labels to display weather conditions, humidity, wind speed, and pressure.

#### 3. Visual Elements:

- Incorporates images and icons for search, branding, and weather condition representation.
- Implements a bottom box with a unique design for an enhanced visual appeal.

#### 4. Error Handling:

- Catches exceptions during the data retrieval process and displays an error message if the user inputs an invalid city name or encounters any other issue.